CWA COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5

Purpose:	Compliance Evaluation Inspection
Facility:	Walnutdale Family Farms, LLC 4309 14th Street Wayland, Michigan 49348 42.732N, 85.682W
NPDES Permit Number:	General Permit No. MIG019000, COC MIG010063, Date Issued: June 7, 2012 General Permit No. MIG010000, COC MIG010063, Date Issued: December 23, 2016
Date of Inspection:	April 4, 2017
EPA Representatives:	Donald R. Schwer III, Agricultural Engineer schwer.don@epa.gov, 312-353-8752 Andi Hodaj, Environmental Engineer hodaj.andi@epa.gov, 312-353-4645 Robert Thompson, Associate Regional Counsel
DOJ Representative:	Lauren Grady, Trial Attorney
Facility Representatives:	Ex. 6 (Personal Privacy) Owner Ex. 6 (Personal Privacy), Owner James DeYoung, CJD Farm Consulting James Doezema, Foster Swift Collins & Smith
Report Prepared by:	Donald R. Schwer III, Enforcement Officer
Report Date:	8/30/17
Inspector's Signature:	D R Schwer III
Approval Date:	8/30/17
Approval Signature:	[signature], Section 2 Chief, Water Enforcement and Compliance Assurance

BACKGROUND

The purpose of this report is to describe, evaluate and document Walnutdale Family Farms, LLC's (Walnutdale's) compliance with the Clean Water Act (CWA), the NPDES permit No. MIG019000 and No. MIG010000, and Consent Decree Civil Action No. 4:00-CV-193 at its Wayland, Michigan facility on April 4, 2017. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended. Walnutdale is a large permitted concentrated animal feeding operation (CAFO) with approximately 1600 dry and milking cows. Walnutdale is adjacent to perennial Red Run.

Michigan Department of Environmental Quality (MDEQ) issued Violation Notice (VN), VN-006003, on March 17, 2015 for prohibited land application to field R Evert 9th M (R4E9M) and R Evert 9th N (R4E9N). According to Walnutdale's records, the farm has not land applied to these fields since the VN. MDEQ issued VN-006458 on April 5, 2016 for failure to submit an application for permit renewal. Walnutdale has since maintained coverage under MIG010000. MDEQ issued a Second Violation Notice, SVN-000596, on January 12, 2017 for prohibited land application to field D19-S, H4-CD, S Winger-N, W22-N, and W22-S. During the inspection, Walnutdale stated that these violations have been resolved and were due to reporting incorrect soil test phosphorus (STP) values.

Walnutdale has not been timely submitting annual reports to EPA describing the status of compliance with the Consent Decree as required by Paragraph 39 of Consent Decree Civil Action No. 4:00-CV-193. Walnutdale has not been submitting updates to its comprehensive nutrient management plan as required by Paragraph 40 of Consent Decree Civil Action No. 4:00-CV-193.

SITE INSPECTION

March 8, 2017

On March 8, 2017, Mr. Hodaj and I arrived at Walnutdale at approximately 1:51 p.m. We parked the car at the facility office and put on disposable boots. There were no facility personnel located in the office. I called Ex. 6 (Personal Privacy), however, there was no answer. We walked to the Milking Parlor and spoke with Ex. 6 (Personal Privacy) Ex. 6 (Personal Privacy) [redacted]. I explained the purpose of the inspection. Ms. Ex. 6 (Personal Privacy) [redacted] and then stated that Ex. 6 (Personal Privacy) is approximately 2 hours away from the facility and did not want us to tour the facility without him being present. Ex. 6 (Personal Privacy) denied access to the facility in Ex. 6 (Personal Privacy) absence. We told Ex. 6 Ex. 6 that we would wait in our vehicle for Ex. 6 (Personal Privacy). At 2:38 p.m. Ex. 6 (Personal Privacy) approached the vehicle and told us that she had spoken with Ex. 6 (Personal Privacy) and their attorney, Mr. James Doezema, and said we would not be granted access to the facility. Ex. 6 (Personal Privacy) provided a copy of Mr. Doezema's contact information. We waited at the facility while our counsel tried to reach Mr. Doezema. Mr. Doezema emailed the Department of Justice (DOJ) and stated "You need to tell your people to leave." Previous

to the inspection, on February 27, 2017, Mr. Doezema was provided notification from DOJ that the EPA would be inspecting the farm on March 8, 2017. Mr. Hodaj and I left Walnutdale at approximately 3:25 p.m.

April 4, 2017

Mr. Hodaj, Mr. Thompson, Ms. Grady, and I arrived at Walnutdale Farms at 11:00 a.m. and parked the vehicles at the facility office. Mr. Hodaj and I put on disposable boots. We entered the office. We conducted an opening conference with Ex. 6 (Personal Privacy) Ex. 6 (Personal Privacy) Mr. Doezema and Mr. James DeYoung. I explained the purpose of the inspection and presented my credentials to Ex. 6 (Personal Privacy), among others. I stated that we would like to perform a facility walkthrough followed by a review of records. I showed an aerial map and provided a general overview of the locations in which I would like to do a walkthrough. Mr. DeYoung provided copies of the farm's weather forecast records on compact disc. We listed some of the records that were not in EPA's possession including daily and weekly inspection logs for 2014, daily land application records for 2015, and a maintenance log. Ex. 6 (Personal Privacy) stated that no separate maintenance log is kept and that maintenance would be logged on the daily and weekly inspection logs. Mr. Thompson and Ms. Grady put on disposable boots. We began the walkthrough at approximately 11:25 a.m. Ex. 6 (Personal Privacy) did not join on the walkthrough or the remainder of the inspection.

Walkthrough

To facilitate the walkthrough section of this report a schematic is included in Attachment 1. Inspection photographs are in Attachment 2.

The walkthrough began at the office. I walked south along the west side of the freestall barns on the access way to the south end of the facility. I then walked east toward the feed storage pad. I observed the marker in Pit 1 (Attachment 2: RIMG0116). I continued walking east towards the east end of the feed storage pad. The southwest inlet contained a slotted grate which allowed water to be collected and transferred to the north to the Catch Basin (Attachment 2: RIMG0117). An open silage pile and bag of high moisture corn was located on the southeast corner of the feed storage pad and another bag of silage was located on the north end of the feed storage pad (Attachment 2: RIMG0118). I observed feed solids on the ground throughout the feed storage pad. I observed the northwest inlet which contained a slotted grate which allowed water to be collected and transferred to the north to the Catch Basin (Attachment 2: RIMG0119). The runoff from the feed storage pad is designed to be collected through the two wastewater inlets. I observed the marker in Pit 2 (Attachment 2: RIMG0120).

I observed stormwater drains east of B3 and between B3 and B4 (Attachment 2: RIMG0122-RIMG0124). A settling basin was located east of the milking parlor which is pumped to the Slurry Storage tank (Attachment 2: RIMG0125). We continued to the Commodities Barn which contained a stormwater inlet on the southwest end (Attachment 2: RIMG0127-RIMF0128). This inlet flows to the Catch Basin according to the

schematic. We continued to walk around the East Manure Storage Facility, Pit 8. I observed a number of areas around the perimeter of Pit 8 where vegetation had punctured the embankment liner or where the liner was torn (Attachment 2: RIMG0129-RIMG0135). I observed a marker in Pit 8, however, the operating levels were not clearly marked. Mr. DeYoung and Ex. 6 (Personal Privacy) were unsure what the marker represented (Attachment 2: RIMG0136).

At Pit 8, a mixer and manure spreader looked to have been recently used (Attachment 2: RIMG0137-RIMG0138). I observed the marker in Pit 7, the waste was above the emergency level (Attachment 2: RIMG0139). I observed the marker in Pit 6 (Attachment 2: RIMG0142). We continued to the Catch Basin. The Catch Basin contained numerous bubbles under the liner (Attachment 2: RIMG0143- RIMG0146; RIMG0159). The Catch Basin embankment contained numerous animal burrows throughout the northeast end (Attachment 2: RIMG0148- RIMG0152). Flexible hosing was connected at the north end of the Catch Basin which continued east and then north (Attachment 2: RIMG0153-RIMG0155; RIMG0157). The Catch Basin lacked established vegetation along portions of the west embankment (Attachment 2: RIMG0158). Milk cooling water was discharging north toward the pasture (Attachment 2: RIMG0162- RIMG0163). The milk cooling discharge pathway was stained red. Runoff in the pasture flows to Red Run Drain. I observed a marker for the Catch Basin that appeared to represent the freeboard level.

Closing Conference

At the conclusion of the inspection, I summarized my observations to Mr. DeYoung, Ex. 6 Ex. 6 and Mr. Doezema. I noted that vegetation had punctured the Pit 8 liner in several locations and that the liner had been torn in a location. I noted that the Catch Basin contained numerous bubbles under the liner and numerous animal burrows were noted throughout its northeast end. I received copies of the 2017 land application and weekly inspections.

I requested the following records:

- Soil test results for fields D19, J-49, H-1,2,3,4,5,6,7 and W-22;
- Manure Analysis Results
- Manure Spreader Calibrations
- Responses to MDEQ NOV's regarding land application violations
- MDEQ Daily/Weekly CAFO Inspection Records for 2014 and
- Daily Manure Application Records for 2015

The inspection ended at approximately 2:15 p.m.

File Review

Walnutdale's latest updated comprehensive nutrient management plan (CNMP) was dated February 8, 2016 and was submitted to MDEQ for permit renewal.

The inspection forms reviewed did not contain information on maintenance performed at the facility. In addition, the weekly inspection forms did not record any deficiencies or damage to any of the facility's waste storage devices.

Manure sampling was not provided for 2016. The permit requires manure to be sampled a minimum of once per year to determine nutrient content so that appropriate land application rates can be determined. For manure sampling in 2015, I assessed the manure sample results in conjunction with the land application rates documented in the land application summaries for 2015 and 2016. I found little correlation between the manure sampling test results and the rates utilized to determine the amount of nutrient land applied. It is unclear what nutrient analyses were used to determine amount of nutrients land applied.

Walnutdale does not have a copy of the Daily Land Application Records for 2015. The Manure Application Summary for 2015, which includes the spring spreading for the 2015 crop year, documents over 2,000,000 gallons of slurry land applied. However, the weekly inspection records for the farms storage devices indicated the 878,818 gallon slurry tank was only pumped down once in this timeframe.

The Daily Manure Application Record for March 28, 2017 for field D-19 did not contain the required information for the field inspection, application information, or follow up (Attachment 3).

Land Application

A review of the facility's land application was conducted and summarized in Table 1 and Table 2 below.[1] The permit states, "if the Bray P1 soil test result is 150 parts per million (ppm) or more, CAFO waste application shall be discontinued until nutrient use by crops reduces the Bray P1 soil test result to less than 150 ppm." Walnutdale land applied to the following two fields with soil test above 150 ppm. See Table 1.

Table 1: Land Application to Fields with Bray P1 Soil Test Results >150 ppm

Month of Application	Field	Application Rate (lbs. P2O5/acre)	Bray P1 Soil Test Result (ppm)
12/1/2012	R Evert 9th M (R4E9M)	96	255
12/1/2012	R Evert 9th N (R4E9N)	96	187
11/1/2011	R Evert 9th M (R4E9M)	64	255
11/1/2011	R Evert 9th N (R4E9N)	64	187
11/1/2011	R Bobs Front (R7BF)	33	210

The permit states, "if the Bray P1 soil test result is 75 ppm P or more, but less than 150 ppm P, application rates shall be based on the maximum rates of phosphorus (P) in annual pounds per acre as calculated using the following formula: The realistic yield goal per acre, using the units specified in the table below, for the planned crop multiplied by

[1] Tables 1, 2, and 3 only include violations since crop year 2012. The review indicated that there were a number of other violations of these standards.

the number in the P column for the crop." . . . "The result is the maximum annual pounds per acre of P that may be applied for the first crop planned after the application of CAFO waste. If the one year rate is impractical due to spreading equipment or crop production management, the permittee may apply up to two years of P at one time, but no P may be applied to that field for the second year." A summary of fields where land application of P exceeded the maximum annual pounds per acre rate is provided in Table 2.

Table 2: Land Application to Fields with Bray P1 Soil Test Results between 75 to 150 ppm

Month of Land Application	Crop Year	Field	Application Rate (lbs. P2O5/acre)	Areas of Concern	Permit P2O5 Rate (lbs/A) for First Crop*	Crop (Yield)	Bray P1 Soil Test Result (ppm)
9/1/2011	2012	Dykehouse Corn (D19)	6	Multiple years' worth of phosphorus applied in Crop Year 2011	66	Corn Silage (20 tons)	100.5
10/1/2011	2012	Dykehouse Corn (D19)	95				
12/1/2011	2012	Dykehouse Corn (D19)	5				
9/1/2012	2013	Dykehouse Corn (D19)	90	-	78	Rye/Corn Silage (8 tons/20 tons)	120.5
5/1/2013	2013	Dykehouse Corn (D19)	91	Exceeded P2O5 Rate for First Crop			
5/1/2013	2013	Dykehouse Corn (D19)	96				
10/1/2013	2014	Dykehouse Corn (D19)	97	Multiple years' worth of phosphorus applied in Crop Year 2013	79.2	Corn Silage (24 tons)	120.5
-	2016	Edsalls N of Dr (ED21A)	105	Exceeded P2O5 Rate for First Crop- 50 lbs commercial fertilizer	66	Corn Silage (20 tons)	88
-	2016	Edsalls N of Dr (ED21B)	105	Exceeded P2O5 Rate for First Crop- 50 lbs commercial fertilizer			84
12/1/2011	2012	Home 3 (H3)	5	Multiple years' worth of phosphorus applied in Crop Year 2011	66	Corn Silage (20 tons)	124
12/1/2011	2012	Home 4 (H4A)	7	Multiple years' worth of phosphorus applied in Crop Year 2011	66	Corn Silage (20 tons)	86
12/1/2011	2012	Home 4 (H4B)	7	Multiple years' worth of phosphorus applied in Crop Year 2011	66	Corn Silage (20 tons)	108.5
10/1/2013	2014	Home 4 (H4B)	94	-	39.3	Alfalfa (3 tons)	110
5/27/2014	2014	Home 4 (H4B)	7	Exceeded P2O5 Rate for First Crop			
3/1/2012	2012	Home 4 (H4C)	76	Multiple years' worth of phosphorus applied in Crop Year 2011			
5/1/2012	2012	Home 4 (H4C)	4				

6/1/2012	2012	Home 4 (H4C)	16		91.7	Alfalfa (7 tons)	
7/1/2012	2012	Home 4 (H4C)	54				83
6/1/2013	2013	Home 4 (H4C)	104	Multiple years' worth of phosphorus applied in Crop Year 2012			
6/1/2013	2013	Home 4 (H4C)	19				
7/1/2013	2013	Home 4 (H4C)	13				
8/1/2013	2013	Home 4 (H4C)	16		91.7	Alfalfa (7 tons)	83
3/1/2012	2012	Home 4 (H4D)	76	Multiple years' worth of phosphorus applied in Crop Year 2011			
5/1/2012	2012	Home 4 (H4D)	4				
6/1/2012	2012	Home 4 (H4D)	16				
7/1/2012	2012	Home 4 (H4D)	54		91.7	Alfalfa (7 tons)	82.5
6/1/2013	2013	Home 4 (H4D)	88	Multiple years' worth of phosphorus applied in Crop Year 2012			
6/1/2013	2013	Home 4 (H4D)	19				
7/1/2013	2013	Home 4 (H4D)	13				
8/1/2013	2013	Home 4 (H4D)	16		91.7	Alfalfa (7 tons)	82.5
12/1/2011	2012	Home 7 (H7)	310	Exceeded P2O5 Rate for 2 years	69.3	Corn Silage (21 tons)	133
11/1/2012	2013	Home 7 (H7)	35	Multiple years' worth of phosphorus applied in Crop Year 2012			
5/1/2013	2013	Home 7 (H7)	114		69.3	Corn Silage (21 tons)	133
11/1/2013	2014	Home 7 (H7)	15	Multiple years' worth of phosphorus applied in Crop Year 2013			
12/1/2013	2014	Home 7 (H7)	14		79.2	Corn Silage (24 tons)	133
5/1/2014	2014	Home 8 (H8)	186	Exceeded P2O5 Rate for First Crop	-	Alfalfa (22 tons)	128
10/1/2011	2012	Jacksons NW2 (J49)	5	-			
4/1/2012	2012	Jacksons NW2 (J49)	124		-	Wheat/Peas	107.5
5/1/2013	2013	Jacksons NW2 (J49)	25	Multiple years' worth of phosphorus applied in Crop Year 2012	60.3	Wheat/alfalfa (75 bu/3 tons)	107.5
9/1/2013	2014	Wingers (W22A)	112	Exceeded P2O5 Rate for First Crop			
6/9/2014	2014	Wingers (W22A)	118	Exceeded P2O5 Rate for 2 years	72	Rye/Corn Silage (4 tons/20 tons)	

-	2015	Wingers (W22A)	5	Multiple years' worth of phosphorus applied in Crop Year 2014	66	Corn Silage (20 tons)	76
11/1/2011	2012	Wingers (W22B)	97				
4/1/2012	2012	Wingers (W22B)	55	Exceeded P2O5 Rate for First Crop			
4/1/2012	2012	Wingers (W22B)	97		79.5	Rye/Corn Silage (8/20 tons)	76
6/1/2013	2013	Wingers (W22B)	40	Multiple years' worth of phosphorus applied in Crop Year 2012	66	Corn Silage (20 tons)	76
9/1/2013	2014	Wingers (W22B)	95				
6/9/2014	2014	Wingers (W22B)	118	Exceeded P2O5 Rate for First Crop	72	Rye/Corn Silage (4/20 tons)	75.5
-	2015	Wingers (W22B)	5	Multiple years' worth of phosphorus applied in Crop Year 2014	66	Corn Silage (20 tons)	75.5

* Based on the farm records it is unclear whether the alfalfa reporting is based off of hay or haylage yields. EPA estimated the permitted P2O5 Rate (lbs/A) for alfalfa based on the yield and harvest form for hay. This calculation would overestimate the permitted P2O5 rate if the yield and harvest form for alfalfa reported were for haylage and not hay.

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The permit states, "the annual rate of CAFO waste application shall not exceed the nitrogen fertilizer recommendation for the first crop year grown after the CAFO waste is applied." According to Michigan State University Extension Bulletin E2904, the nitrogen fertilizer recommendation for a 20 ton yield of corn silage is approximately 142 lbs N/acre. A summary of fields where land application of nitrogen exceeded the fertilizer recommendation is provided in Table 3.

Table 3: Land Application in Excess of Nitrogen Requirements

Date of Application	Field	Application Rate	Crop
12/1/2011	Home 5 (H5)	434 lbs N/ acre	Corn Silage
12/1/2011	Home 6 (H6)	434 lbs N/acre	Corn Silage
12/1/2011	Home 7 (H7)	434 lbs N/ acre	Corn Silage

AREAS OF CONCERN

EPA observed the following areas of concern:

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 17: ***"Within 90 days of entry by the Court of the Consent Decree, or such other time as the Parties agree to in writing, Defendants shall install electric heated Waterers and eliminate all discharges from cooling water from Milk Coolers."***

Walnutdale was no longer collecting all cooling water from the Milk Coolers. This water discharges north from the Milk Parlor and flows to the pasture which flows to Red Run Drain.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 22: ***"Within 30 days of the entry by the Court of the Consent Decree, or such other time as the Parties agree to in writing, the Defendants shall install markers (i.e., measuring devices that reflect the remaining unused capacity of the storage device) on all existing Waste Storage Devices at the Dairy Facility. Thereafter, the Defendants shall install markers on all future Waste Storage Devices, and shall at all times maintain a minimum of 1 foot of freeboard in all Waste Storage Devices."***

The NPDES Permits require that ***"CAFO waste storage structures shall include an easily visible, clearly marked depth gauge".***

The Catch Basin waste storage structure and the east waste holding facility did not contain a depth gauge that was clearly marked for the operational, emergency, and freeboard volume. The Catch Basin waste storage structure contained a marker for the freeboard level; however, no other marker was present that would reflect the remaining unused capacity of the storage device. Pit 8 contained a marker; however, facility representatives did not know what level it was representing and no other marker was present that would reflect the remaining unused capacity of the storage device.

The NPDES Permits require that "*Vegetation shall be maintained at a height that stabilizes earthen CAFO waste storage structures, provides for adequate visual inspection of the storage structures, and protects the integrity of the storage structure liners. The vegetation shall have sufficient density to prevent erosion. Woody vegetation shall be removed promptly from waste storage berms and other areas where roots may penetrate or disturb waste storage facility liners or waste treatment facilities".*

The Catch Basin lacked established vegetation along portions of the west embankment. Pit 8 contained woody vegetation where roots had penetrated the facility liner.

The NPDES Permits require that "*The integrity of the CAFO waste storage structure liner shall be protected. Liner damages shall be corrected immediately and steps taken to prevent future occurrences".*

The farm's CNMP states the following: *"The permittee shall inspect the large CAFO waste storage structures a minimum of one time weekly year-round. A record of the inspections shall be maintained by the permittee and kept with the CNMP for a period of five years. These inspections shall include all of the following: a) The large CAFO waste dikes for cracking, inadequate vegetative cover, woody vegetative growth, evidence of overflow, leaks, seeps, erosion, slumping, animal burrowing or breakthrough, and condition of the storage structure liner." and "Walnutdale Dairy, LLC will initiate steps to correct any condition that is not in accordance with this Storage Structure Operation and Maintenance Program. . . . c) Dike damage caused by erosion, slumping, or animal burrowing will be corrected immediately and steps taken to prevent occurrences in the future. Records will be stored in Appendix A-3. d) The integrity of the CAFO waste storage structure liner will be protected. Liner damages will be corrected immediately and steps taken to prevent future occurrences. Records will be stored in Appendix A-3."*

The Catch Basin contained bubbles throughout sections of the liner and burrowing animals caused damage at the Catch Basin's east embankment. Vegetation had punctured the liner and the liner was not present on a sections of Pit 8. These issues had not been documented on the weekly inspection forms.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 24: *The Defendants shall conduct weekly inspections at the Dairy Facility to insure compliance with the Decree. Waste Storage Devices shall be inspected for freeboard, overflows, broken pipes or equipment failure and any leaks, seeps, erosion or damage caused by burrowing animals. All piping, transfer lines and catch basins shall also be inspected weekly and maintained as necessary. Routine maintenance, including mowing of berms, shall be conducted in a manner to facilitate these inspections."*

The NPDES Permits require that *"The permittee shall develop a Storage Structure Inspection Plan and inspect the CAFO waste storage structures a minimum of one time*

weekly year-round. The inspection plan shall be included in the CNMP and results of the inspections shall be kept with the CNMP on a form provided by the Department".

Walnutdale documented weekly inspections of the remaining storage capacity of the Waste Storage Devices at the farm. However, Walnutdale did not keep any records documenting maintenance inspections of the Waste Storage Devices, piping, transfer lines, or catch basins. A number of maintenance issues were observed during the inspection including damage caused by burrowing animals at the Catch Basin, vegetation puncturing the liner or the liner being torn on sections of Pit 8, and liner bubbles at the Catch Basin. These maintenance issues had not been documented on the weekly inspection forms, which only documented remaining storage capacity.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 25: ***The Defendants shall maintain such records at the Dairy Facility as necessary to demonstrate compliance with the CNMP and the Consent Decree . . .***

The NPDES Permits require that "*The results of land application inspections, monitoring, testing, and recordkeeping shall be recorded in a "Land Application Log" which shall be kept up-to-date and kept with the CNMP." This requirement includes keeping a log of "the time, date, quantity, method, location, and application rate for each location at which CAFO wastes are land applied".*

Walnutdale does not have a copy of the Daily Land Application Records for 2015. The Daily Land Application Record for March 28, 2017 for field D-19 was incomplete. There are discrepancies with the amount of slurry documented as land applied in 2015 and amount of slurry documented as pumped from the slurry tank.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 28: "*. . . Land application, including application on frozen or snow-covered ground, shall not be performed except in accordance with approved CNMPs and the State's NPDES General Permit . . . as revised or modified"*

The NPDES Permits require that ***"CAFO waste shall be sampled a minimum of once per year to determine nutrient content" and "CAFO waste test results shall be used to determine land application rates".***

The farm did not submit nutrient analyses for 2016. The nutrient analyses for 2015 did not correlate with the nutrient rates land applied in 2015 or 2016.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 28: "*. . . Land application, including application on frozen or snow-covered ground, shall not be performed except in accordance with approved CNMPs and the State's NPDES General Permit . . . as revised or modified"*

NPDES Permit No. MIG019000, Part I, Section A. 4. Nutrient Management Plan (NMP) b. 7) c) Maximum Annual Land Application Rates A) ***"If the Bray P1 soil test***

result is 150 parts per million (ppm) or more, CAFO waste application shall be discontinued until nutrient use by crops reduces the Bray P1 soil test result to less than 150 ppm."

See Table 1 for the dates in which Walnutdale land applied to fields with soil tests in excess of 150 ppm.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 28: *". . . Land application, including application on frozen or snow-covered ground, shall not be performed except in accordance with approved CNMPs and the State's NPDES General Permit . . . as revised or modified"*

NPDES Permit No. MIG019000, Part I, Section A. 4. Nutrient Management Plan (NMP) b. 7) c) Maximum Annual Land Application Rates B): *"If the Bray P1 soil test result is 75 ppm P or more, but less than 150 ppm P, application rates shall be based on the maximum rates of phosphorus (P) in annual pounds per acre as calculated using the following formula: The realistic yield goal per acre, using the units specified in the table below, for the planned crop multiplied by the number in the P column for the crop." . . . "The result is the maximum annual pounds per acre of P that may be applied for the first crop planned after the application of CAFO waste. If the one year rate is impractical due to spreading equipment or crop production management, the permittee may apply up to two years of P at one time, but no P may be applied to that field for the second year."*

Table 2 lists the land application events at fields where multiple years of phosphorus had been applied in years prior and land application of phosphorus continued. Additionally, Table 2 lists the land application events at fields where land application exceeded the maximum application rate for phosphorus for the first crop planned after the application of CAFO waste and the application was not deemed impractical due to spreading equipment or crop production management.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 28: *". . . Land application, including application on frozen or snow-covered ground, shall not be performed except in accordance with approved CNMPs and the State's NPDES General Permit . . . as revised or modified"*

NPDES Permit No. MIG019000, Part I, Section A. 4. Nutrient Management Plan (NMP) b. 7) c) Maximum Annual Land Application Rates C) *"If Bray P1 soil test result is less than 75 ppm P, the annual rate of CAFO waste application shall not exceed the nitrogen fertilizer recommendation for the first crop year grown after the CAFO waste is applied."*

Table 3 list the land application events that exceeded the nitrogen fertilizer recommendation.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 30: ***"A maintenance log shall be maintained separately or as part of the approved CNMP and signed by one or more of the Defendants documenting that preventive maintenance has been accomplished."***

The NPDES Permits Operation and Maintenance Requirements require that ***"Specific records below shall be kept with the CNMP unless specified otherwise below".***

Facility personnel indicated that maintenance would be documented on the inspection forms, however, the inspection forms contained no information on maintenance performed at the facility. A number of maintenance concerns were noted as described above.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 39: ***"Within 365 days after the entry of the Consent Decree by the Court, and within each calendar year thereafter until termination of this Consent Decree, the Defendants shall submit a report to EPA and Sierra Club that shall describe the status of the Defendants' compliance during the proceeding year with each of the requirements set forth in Section V (Compliance Requirements)."***

Walnutdale did not submit annual reports to EPA describing the status of compliance with the Consent Decree as required by Paragraph 39 of Consent Decree Civil Action No. 4:00-CV-193 for the years 2012-2016.

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 40: ***"When submitting an updated CNMP to MDEQ in accordance with Paragraph 21, the Defendants must also submit a copy to EPA and certify that the update reflects all process changes, waste stream changes, changes in fields receiving waste, and changes in the number of cattle."***

Walnutdale has not been submitting updates to its comprehensive nutrient management plan as required by Paragraph 40 of Consent Decree Civil Action No. 4:00-CV-193 for the years 2012-2016.

Section 308 of the Clean Water Act states: "*the Administrator or his authorized representative, upon presentation of his credentials- (i) shall have a right of entry to, upon, or through any premises in which an effluent source is located or in which any records required to be maintained under clause (A) of this subsection are located."***

Consent Decree, Civil Action No. 4:00-CV-193, Paragraph 73: "*The United States, and its representatives, including attorneys, contractors, and consultants, shall have the right of entry to any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials to: a. monitor the progress of activities required under this Consent Decree; b. verify any data or information submitted to the United States or MDEQ in accordance with the terms of this Consent Decree; c. obtain samples and,*

upon request, splits of any samples taken by Defendants or their representatives, contractors, or consultants; d. obtain documentary evidence, including photographs and similar data; and e. assess Defendants' compliance with this Consent Decree."

NPDES Permit No. MIG010000, Part II, Section D. 7. Right of Entry: ***"The permittee shall allow the Department, any agent appointed by the Department, or the Regional Administrator, upon the presentation of credentials and, for animal feeding operation facilities, following appropriate biosecurity protocols: a. to enter upon the permitee's premises where an effluent source is located or any place in which records are required to be kept under the terms and conditions of this permit."***

EPA was denied entry to the facility on March 8, 2017.

LIST OF ATTACHMENTS

1. Schematic of Walnutdale Farms
2. Inspection Photographs
3. March 28, 2017 Land Application to D-19
4. 2015 Manure Analyses
5. Manure Application Summaries

ATTACHMENT 1: SCHEMATIC OF WALNUTDALE FARMS

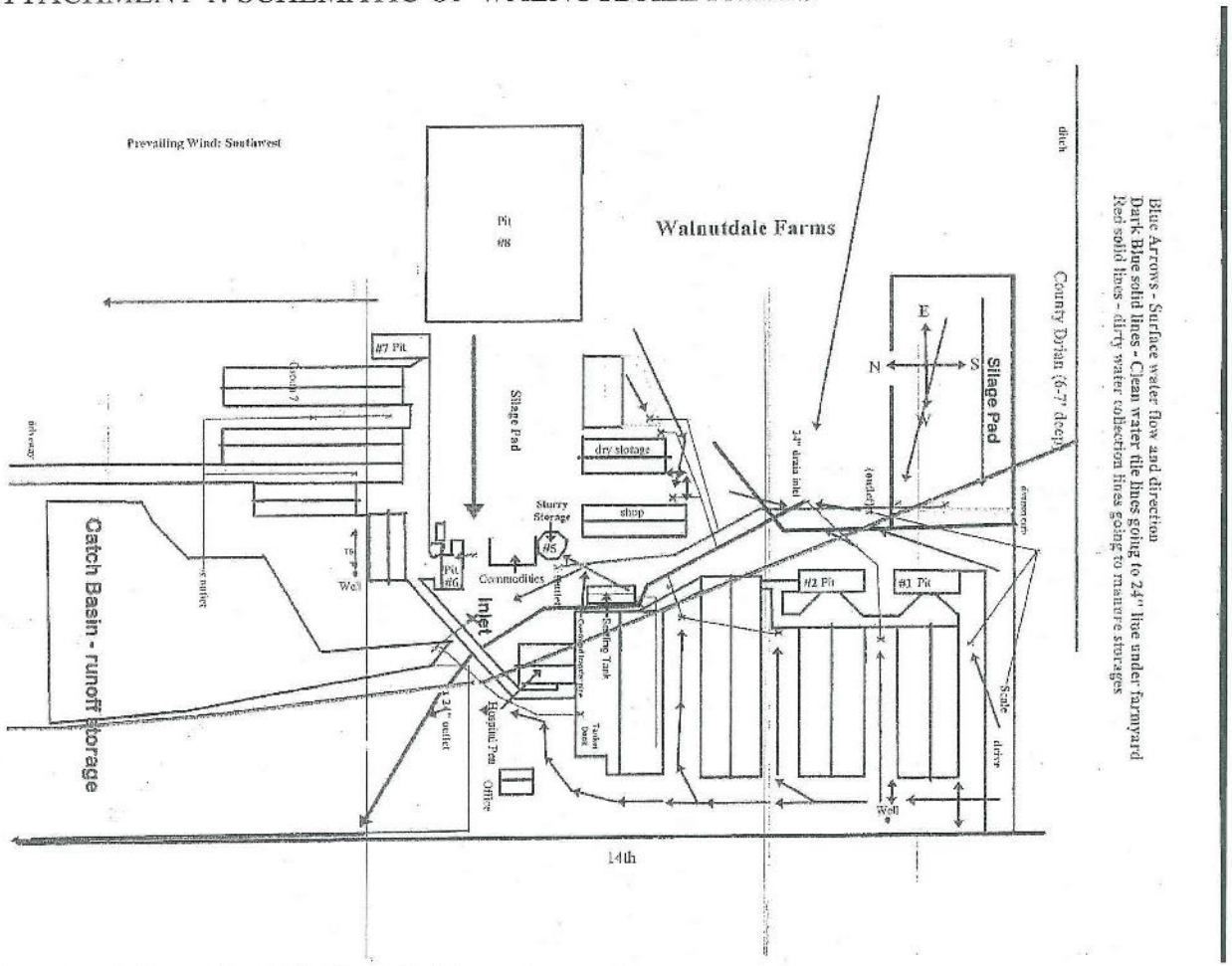
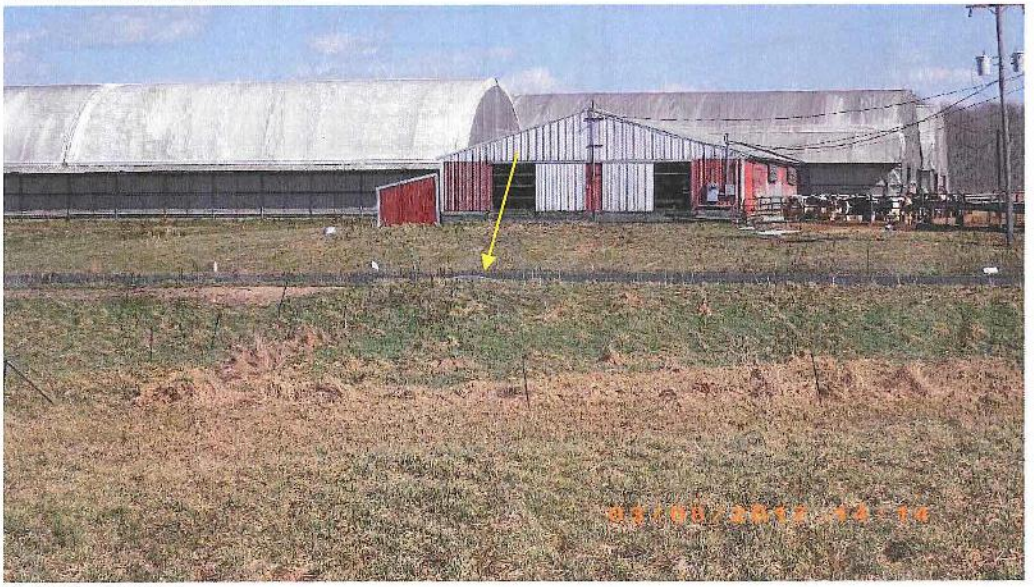


Figure 1: Schematic of Walnutdale Farms.

ATTACHMENT 2: **Walnutdale Family Farms EPA Inspection Photographs**
All photos taken by Don Schwer, Agricultural Engineer, U.S. EPA
Time stamp is in Central Time (CT)

1: RIMG0110
Description: The Catch Basin contained bubbles in the liner visible from 14th Street.
Location: 14th Street
Camera Direction: East



2: RIMG0111
Description: The Catch Basin contained bubbles in the liner visible from 14th Street.
Yellow arrow denotes location of liner bubble.
Location: 14th Street
Camera Direction: East

3: RIMG0112
Description: The Catch Basin contained bubbles in the liner visible from 14th Street. Yellow arrows denote location of liner bubble.
Location: 14th Street
Camera Direction: East

4: RIMG0116
Description: Pit 1 contained a marker for the freeboard level and the emergency level.
Location: Pit 1
Camera Direction: North

5: RIMG0117
Description: The southwest inlet at the Feed Storage Pad contained a slotted grate to allow collection of wastewater.
Location: South inlet at the Feed Storage Pad
Camera Direction: Down/East

6: RIMG0118
Description: The Feed Storage Pad drains from east to west.
Location: West end of Feed Storage Pad.
Camera Direction: East

7: RIMG0119
Description: The northwest inlet at the Feed Storage Pad contained a slotted grate to allow collection of wastewater.
Location: Northwest end of Feed Storage Pad
Camera Direction: Down/West

8: RIMG0120
Description: Pit 2 contained a marker for the freeboard level and the emergency level.
Location: Pit 2
Camera Direction: Southwest

9: RIMG0121
Description: The black corrugated pipe accepts the wastewater from the Feed Storage Area inlets. The conrete pipe drains to the pasture adjacent to the Catch Basin Waste Storage Device.
Location: North of the Feed Storage Area
Camera Direction: South

10: RIMG0122
Description: A drain was located east of barn B3.
Location: East of B3.
Camera Direction: Down/west

11: RIMG0123
Description: A drain was located between barn B3 and B4.
Location: Between B3 and B4. East end.
Camera Direction: Northeast/Down

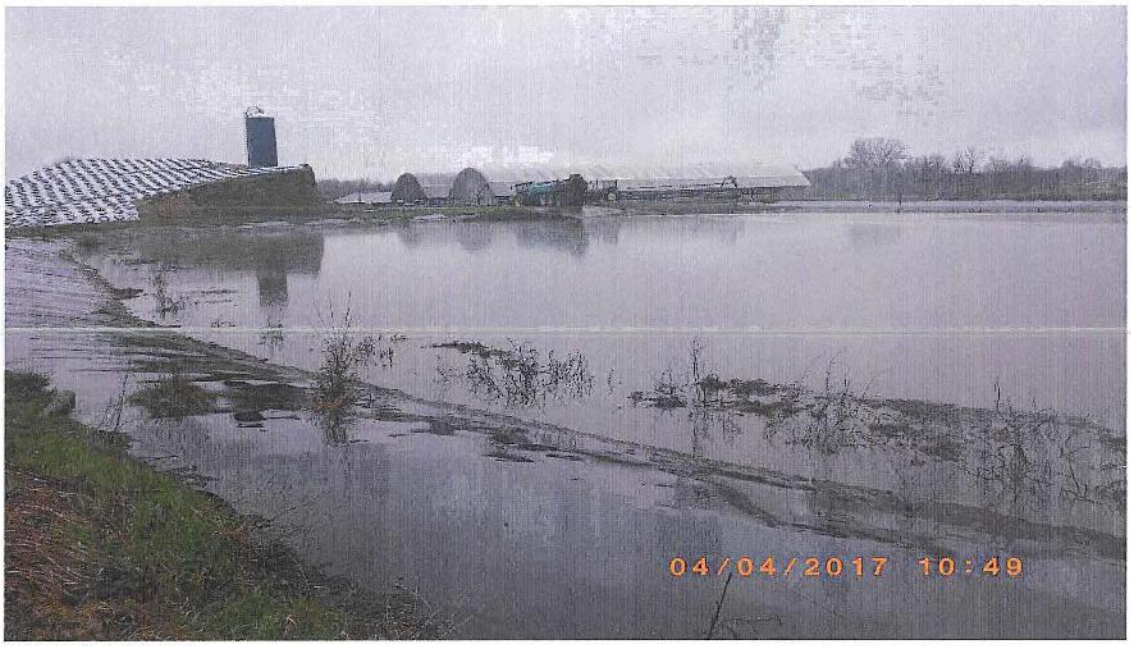
12: RIMG0124
Description: A drain was located between barn B3 and B4.
Location: Between B3 and B4. East end.
Camera Direction: Southwest

13: RIMG0125
Description: The settling basin was located east of barn B4.
Location: East of B4.
Camera Direction: South

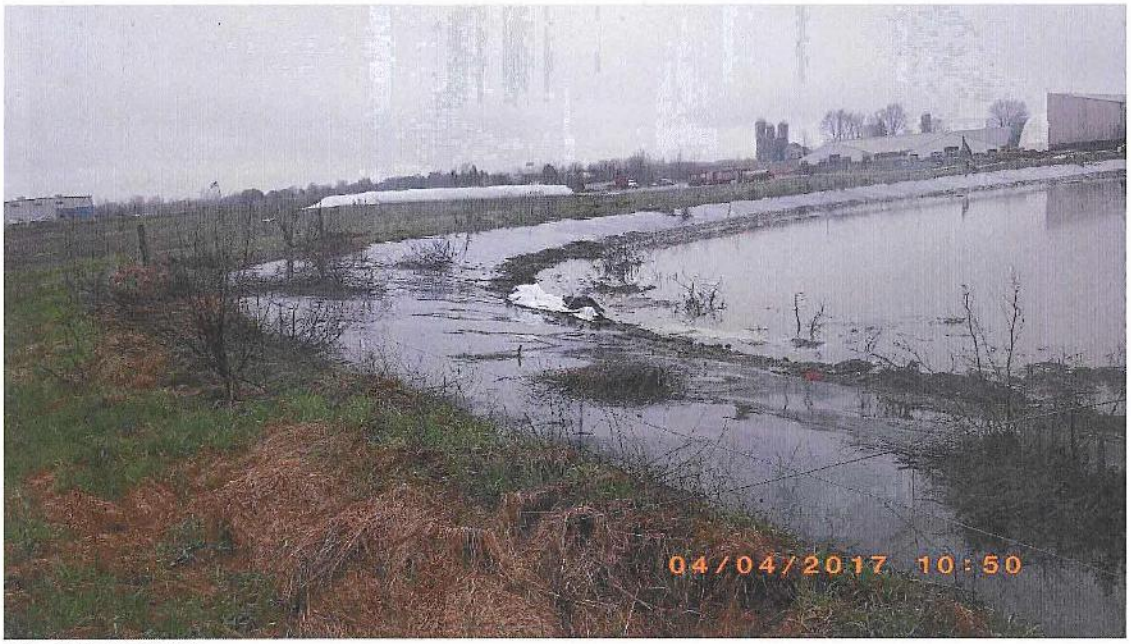
14: RIMG0126
Description: Drainage area to Catch Basin inlet.
Location: Near Slurry Storage.
Camera Direction: North

15: RIMG0127
Description: Commodities Barn concrete pad drains to an inlet on the southwest end.
Location: Commodities Barn
Camera Direction: Northeast

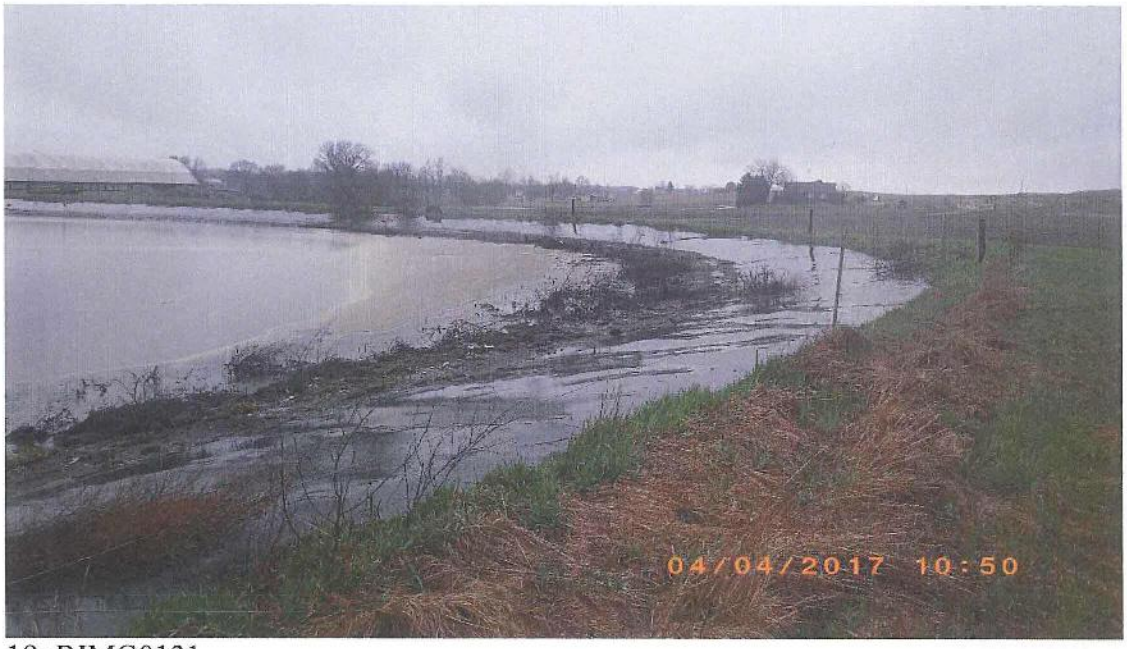
16: RIMG0128
Description: Commodities Barn inlet
Location: Commodities Barn
Camera Direction: Northeast/Down



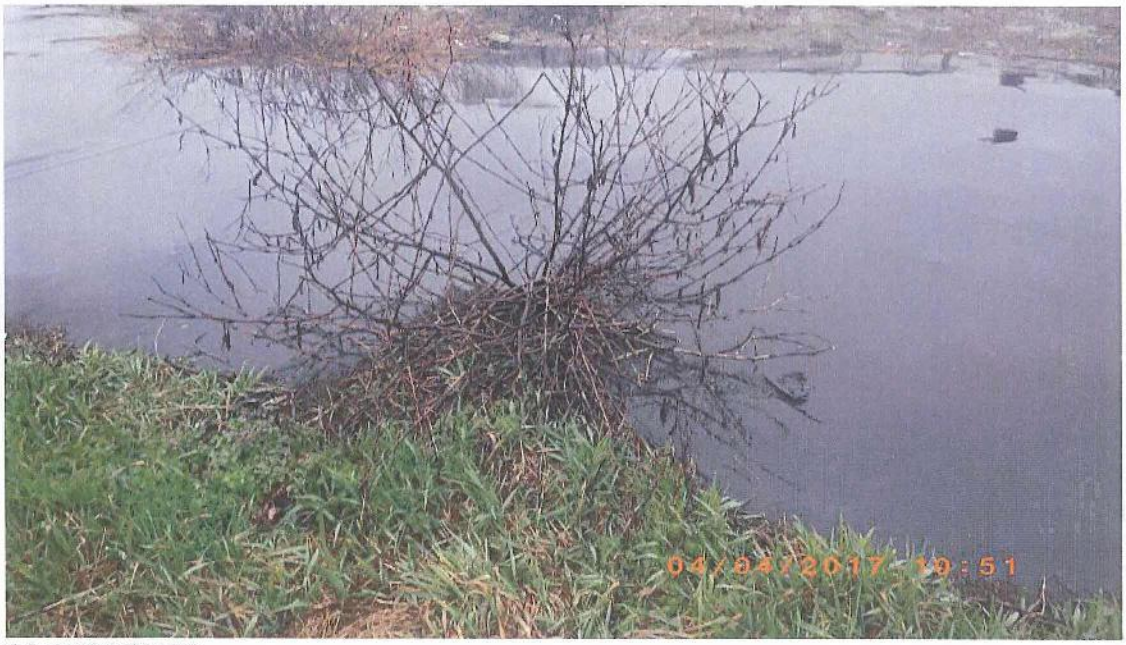
17: RIMG0129
Description: Pit 8 contained vegetation that had punctured the liner around the embankment.
Location: Pit 8
Camera Direction: Northwest



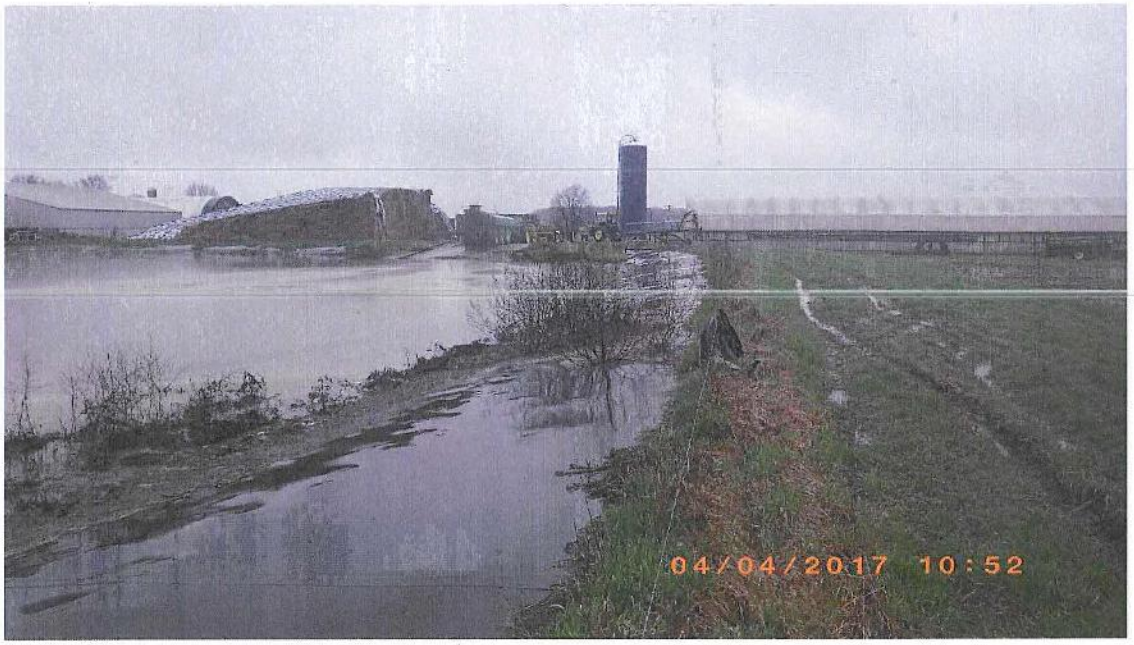
18: RIMG0130
Description: Pit 8 contained vegetation that had punctured the liner around the embankment.
Location: Pit 8
Camera Direction: Southwest



19: RIMG0131
Description: Pit 8 contained vegetation that had punctured the liner around the embankment.
Location: Pit 8
Camera Direction: Northwest

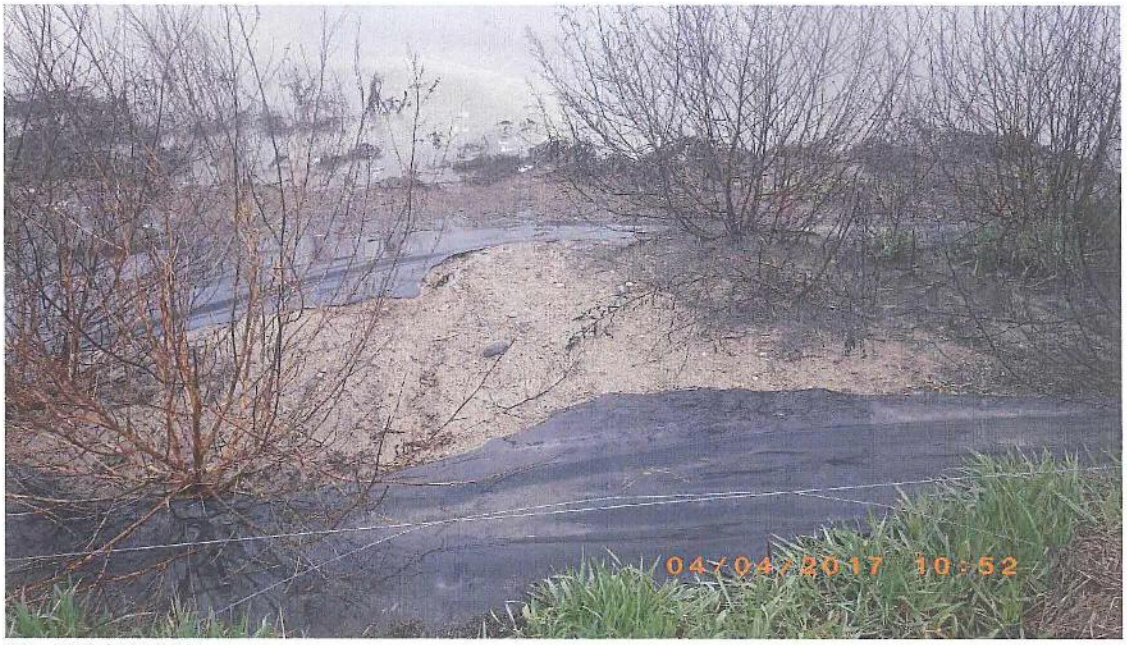


20: RIMG0132
Description: Pit 8 contained vegetation that had punctured the liner around the embankment.
Location: Pit 8
Camera Direction: Down



21: RIMG0133
Description: Pit 8 contained vegetation that had punctured the liner around the embankment.
Location: Pit 8
Camera Direction: West

22: RIMG0134
Description: Pit 8 contained vegetation that had punctured the liner around the embankment.
Location: Pit 8
Camera Direction: Down



23: RIMG0135
Description: Pit 8 contained vegetation that had punctured the liner around the embankment and resulted in tearing of the liner.
Location: Pit 8
Camera Direction: Down

24: RIMG0136
Description: Pit 8 contained a marker, however, James DeYoung and Aubrey VanLaan did not know what level it was representing.
Location: Pit 8
Camera Direction: Down

25: RIMG0137
Description: The mixer contained manure on it and had recently been used.
Location: Pit 8
Camera Direction: East

26: RIMG0138
Description: The manure spreader contained manure on it and had recently been used.
Location: Pit 8
Camera Direction: South

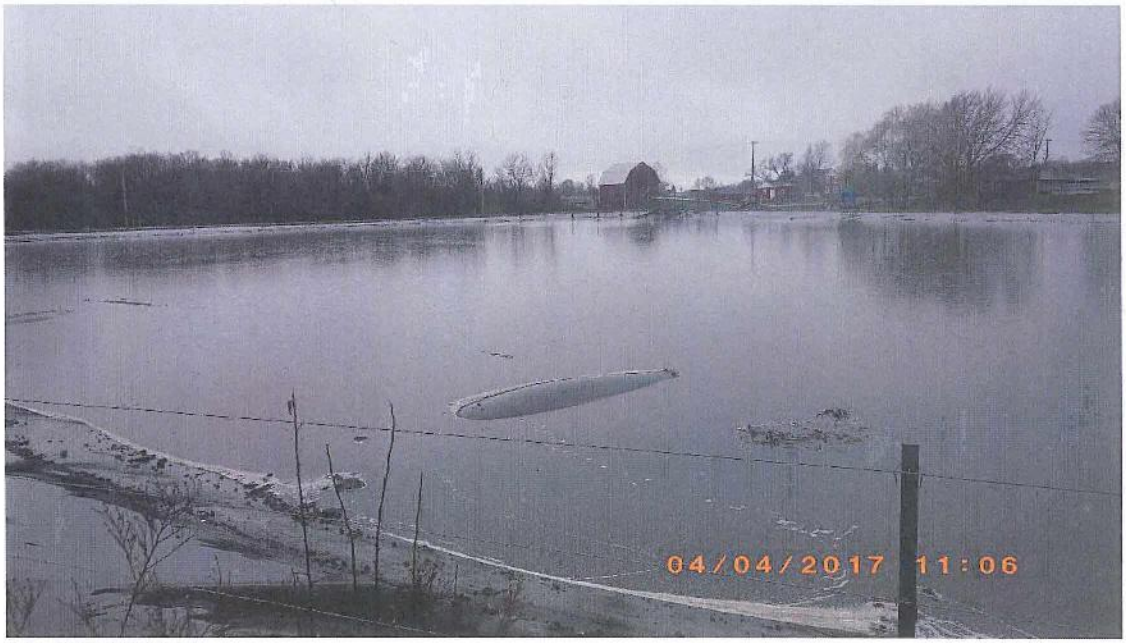
27: RIMG0139
Description: Pit 7 contained a marker for the freeboard level and the emergency level. The waste was above the emergency level but hadn't reached the freeboard level.
Location: Pit 7
Camera Direction: Northwest

28: RIMG0140
Description: The Silage Pad drains east to west.
Location: Silage Pad
Camera Direction: South

29: RIMG0141
Description: Stormwater drainage flows north.
Location: Near Pit 7
Camera Direction: North

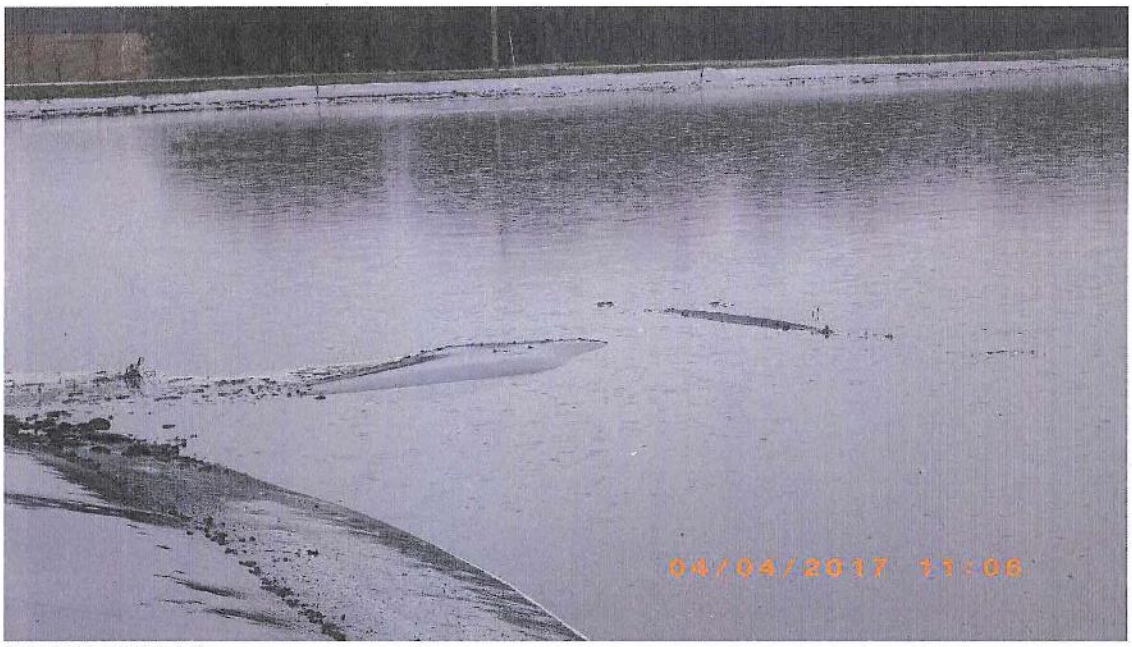
30: RIMG0142
Description: Pit 6 contained a marker for the freeboard level and the emergency level
Location: Pit 6
Camera Direction: West

31: RIMG0143
Description: The Catch Basin contained bubbles under the liner.
Location: Catch Basin
Camera Direction: North



32: RIMG0144
Description: The Catch Basin contained bubbles under the liner.
Location: Catch Basin
Camera Direction: West

33: RIMG0145
Description: The Catch Basin contained bubbles under the liner.
Location: Catch Basin
Camera Direction: West



34: RIMG0146
Description: The Catch Basin contained bubbles under the liner.
Location: Catch Basin
Camera Direction: West

35: RIMG0147
Description: The Catch Basin contained a pipe that outlet into it. Mr. DeYoung and Ms. VanLaan did not know the source of the pipe.
Location: Catch Basin
Camera Direction: Down

36: RIMG0148
Description: The Catch Basin berm contained animal burrows throughout the northeast end.
Location: Catch Basin
Camera Direction: Down

37: RIMG0149
Description: The Catch Basin berm contained animal burrows throughout the northeast end.
Location: Catch Basin
Camera Direction: Down

38: RIMG0150
Description: The Catch Basin berm contained animal burrows throughout the northeast end.
Location: Catch Basin
Camera Direction: Down

39: RIMG0151
Description: The Catch Basin berm contained animal burrows throughout the northeast end.
Location: Catch Basin
Camera Direction: Down

40: RIMG0152
Description: The Catch Basin berm contained animal burrows throughout the northeast end.
Location: Catch Basin
Camera Direction: Down

41: RIMG0153
Description: Flexible hosing was located near the Catch Basin which continued east and then north.
Location: Catch Basin
Camera Direction: West

42: RIMG0154
Description: Flexible hosing was located near the Catch Basin which continued east and then north.
Location: Catch Basin
Camera Direction: East

43: RIMG0155
Description: Flexible hosing was located near the Catch Basin which continued east and then north.
Location: Catch Basin
Camera Direction: North

44: RIMG0156
Description: Catch Basin
Location: Catch Basin
Camera Direction: South

45: RIMG0157
Description: Pump at north end of Catch Basin
Location: Catch Basin
Camera Direction: West

46: RIMG0158
Description: The Catch Basin lacked established vegetation along portions of the west embankment.
Location: Catch Basin
Camera Direction: South

47: RIMG0159
Description: Liner bubble in the Catch Basin.
Location: Catch Basin
Camera Direction: North

48: RIMG0160
Description: The stormwater pipe outlets into pasture. Near the pipe, flow was cutting back around the pipe.
Location: Pasture
Camera Direction: Northwest/down

49: RIMG0161
Description: The stormwater pipe outlets into pasture. Near the pipe, flow was cutting back around the pipe.
Location: Pasture
Camera Direction: Down

50: RIMG0162
Description: Milk cooling water was discharging north toward the pasture. Drainage in the pasture flows to Red Run Drain. The discharge pathway was stained red.
Location: North of milk parlor along cattle walkway.
Camera Direction: South

51: RIMG0163
Description: Milk cooling water was discharging north toward the pasture. Drainage in the pasture flows to Red Run Drain. The discharge pathway was stained red.
Location: North of milk parlor along cattle walkway.
Camera Direction: North

ATTACHMENT 3: MARCH 28, 2017 LAND APPLICATION TO D-19

Daily Manure Application Record (Permit MIG019000)

Date	Field ID	Field size (acres)
3-28-17	D-19	56

Weather

Forecast less than 70% of 1/2" inch rain? [✓] yes [ ] no (DO NOT SPREAD)

Weather conditions during spreading*

[✓] sunny [ ] partly cloudy [ ] cloudy [ ] rain (DO NOT SPREAD)

*If differing conditions exist within 24 hours prior to or after application, check multiple conditions and note timing

Field Inspection (0 to 48 hours before land application) inspector KC

Tile(s) flowing **immediately** prior to spreading? [ ] yes [ ] no [✓] NA

describe flow color and odor (multiple outlets on back if necessary)

Soil cracking evident? [ ] yes [ ] no

If yes, correct (till) prior to spreading on tiled land

Describe crop maturity

Describe soil moisture [ ] dry [ ] moist [ ] *saturated (DO NOT SPREAD)*

Are conservation practices* functioning and in good condition? [ ] yes [ ] no [ ] NA

*Includes grassed waterways, buffer strips, diversions, etc. If "no" describe on back and DISCONTINUE SPREADING.

Application Information

spreader name/ID	application method	capacity	time am pm
Dragline	injected		

Daily Equipment Insp*: [ ] No problems with leaks, structural integrity, or proper O&M

*DO NOT SPREAD if the box above is not checked. Record any corrective actions necessary on back.

manure source	loads	
North Lagoon		
goal application rate/acre		
actual application rate/acre	total volume or weight applied	acres covered

Follow Up

Tile(s) flowing at end of daily spreading? [ ] yes [ ] no [ ] NA

describe flow color and odor (multiple outlets on back if necessary) Inspector:

manure incorporation date or no incorp. explanation*	manure incorporation method

*only: within 24 hrs, frozen, snow covered, or forage crop

Tile(s) flowing after first 1/2" rain w/in 30 days of application? [ ] yes [ ] no [ ] NA

date of inspection	describe flow color and odor (mulitple outlets on back if necessary)	Inspector:

ATTACHMENT 4: 2015 MANURE ANALYSES

REPORT NO.
F15141-6001

ACCOUNT NUMBER
33022

A & L GREAT LAKES LABORATORIES, INC.

3505 Conestoga Drive • Fort Wayne, IN 46808 • Phone 260-483-4759 • Fax 260-483-5274
www.algreatlakes.com • lab@algreatlakes.com

QUALITY ANALYSES FOR INFORMED DECISIONS®

TO: GREEN VALLEY AGRICULTURAL
1250 146TH AVENUE
WAYLAND, MI 49348-9772

FOR: WALNUTDALE FAMILY FARM

ATTN: Ex. 6 (Personal Privacy)

LAB NUMBER: 78803
MANURE TYPE: DAIRY, LIQUID PIT (20)
SAMPLE ID: 1 & 2

MANURE ANALYSIS REPORT

DATE SAMPLED: 05/18/2015
DATE RECEIVED: 05/21/2015
DATE REPORTED: 05/22/2015

PARAMETER	UNIT	ANALYSIS RESULT (AS RECEIVED)	TOTAL POUNDS PER 1,000 GAL **	FIRST YEAR AVAILABILITY @ POUNDS PER 1,000 GAL
Moisture	%	71.67	5970.1	
Solids	%	28.33	2359.9	
Nitrogen, Total (TKN)	%	0.376	31.3	19.0 *
Nitrogen, Ammonium (NH4-N)	%	0.164	13.7	13.7 *
Nitrogen, Organic (N)	%	0.212	17.7	5.3 *
Phosphorus (P)	%	0.079	15.1 (as P2O5)	15.1 (as P2O5) *
Potassium (K)	%	0.206	20.6 (as K2O)	20.6 (as K2O) *

@ Estimate of first-year availability does not account for incorporation losses. Consult MWPS-18, "Livestock Waste Facilities Handbook" for additional information.
* Source: MWPS-18, Livestock Waste Facilities Handbook, 1993
** Manure density assumed to be 8.33 lb/gallon

Report Approved By: David C Henry

Approval Date: 5/22/2015

David Henry - Agronomist / Technical Services - CCA

REPORT NO.
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ACCOUNT NUMBER
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WAYLAND, MI 49348-9772

FOR: WALNUTDALE FAMILY FARM

ATTN: Ex. 6 (Personal Privacy)

LAB NUMBER: 78804
MANURE TYPE: DAIRY, LIQUID PIT (20)
SAMPLE ID: 3 & 4

MANURE ANALYSIS REPORT

DATE SAMPLED: 05/18/2015
DATE RECEIVED: 05/21/2015
DATE REPORTED: 05/22/2015

PARAMETER	UNIT	ANALYSIS RESULT (AS RECEIVED)	TOTAL POUNDS PER 1,000 GAL **	FIRST YEAR AVAILABILITY @ POUNDS PER 1,000 GAL
Moisture	%	73.09	6088.4	
Solids	%	26.91	2241.6	
Nitrogen, Total (TKN)	%	0.375	31.2	18.4 *
Nitrogen, Ammonium (NH4-N)	%	0.155	12.9	12.9 *
Nitrogen, Organic (N)	%	0.220	18.3	5.5 *
Phosphorus (P)	%	0.078	14.8 (as P2O5)	14.8 (as P2O5) *
Potassium (K)	%	0.199	19.9 (as K2O)	19.9 (as K2O) *

@ Estimate of first-year availability does not account for incorporation losses. Consult MWPS-18, "Livestock Waste Facilities Handbook" for additional information.
* Source: MWPS-18, Livestock Waste Facilities Handbook, 1993
** Manure density assumed to be 8.33 lb/gallon

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WAYLAND, MI 49348-9772

FOR: WALNUTDALE FAMILY FARM

ATTN: Ex. 6 x. 6 (Personal Privacy)

LAB NUMBER: 78805
MANURE TYPE: DAIRY, LIQUID PIT (20)
SAMPLE ID: 6

MANURE ANALYSIS REPORT

DATE SAMPLED: 05/18/2015
DATE RECEIVED: 05/21/2015
DATE REPORTED: 05/22/2015

PARAMETER	UNIT	ANALYSIS RESULT (AS RECEIVED)	TOTAL POUNDS PER 1,000 GAL **	FIRST YEAR AVAILABILITY @ POUNDS PER 1,000 GAL
Moisture	%	72.07	6003.4	
Solids	%	27.93	2326.6	
Nitrogen, Total (TKN)	%	0.359	29.9	19.0 *
Nitrogen, Ammonium (NH4-N)	%	0.173	14.4	14.4 *
Nitrogen, Organic (N)	%	0.186	15.5	4.6 *
Phosphorus (P)	%	0.081	15.4 (as P2O5)	15.4 (as P2O5) *
Potassium (K)	%	0.216	21.6 (as K2O)	21.6 (as K2O) *

@ Estimate of first-year availability does not account for incorporation losses. Consult MWPS-18, "Livestock Waste Facilities Handbook" for additional information.
* Source: MWPS-18, Livestock Waste Facilities Handbook, 1993
** Manure density assumed to be 8.33 lb/gallon

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FOR: WALNUTDALE FAMILY FARM

ATTN: Ex. 6 (Personal Privacy)

LAB NUMBER: 78806
MANURE TYPE: DAIRY, LIQUID PIT (20)
SAMPLE ID: 7

MANURE ANALYSIS REPORT

DATE SAMPLED: 05/18/2015
DATE RECEIVED: 05/21/2015
DATE REPORTED: 05/22/2015

PARAMETER	UNIT	ANALYSIS RESULT (AS RECEIVED)	TOTAL POUNDS PER 1,000 GAL **	FIRST YEAR AVAILABILITY @ POUNDS PER 1,000 GAL
Moisture	%	68.26	5686.1	
Solids	%	31.74	2643.9	
Nitrogen, Total (TKN)	%	0.360	30.0	17.8 *
Nitrogen, Ammonium (NH4-N)	%	0.150	12.5	12.5 *
Nitrogen, Organic (N)	%	0.210	17.5	5.3 *
Phosphorus (P)	%	0.087	16.7 (as P2O5)	16.7 (as P2O5) *
Potassium (K)	%	0.209	20.9 (as K2O)	20.9 (as K2O) *

@ Estimate of first-year availability does not account for incorporation losses. Consult MWPS-18, "Livestock Waste Facilities Handbook" for additional information.
* Source: MWPS-18, Livestock Waste Facilities Handbook, 1993
** Manure density assumed to be 8.33 lb/gallon

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FOR: WALNUTDALE FAMILY FARM

ATTN: Ex. 6 (Personal Privacy)

LAB NUMBER: 78807
MANURE TYPE: DAIRY, LIQUID PIT (20)
SAMPLE ID: 8 LAGOON

MANURE ANALYSIS REPORT

DATE SAMPLED: 05/18/2015
DATE RECEIVED: 05/21/2015
DATE REPORTED: 05/22/2015

PARAMETER	UNIT	ANALYSIS RESULT (AS RECEIVED)	TOTAL POUNDS PER 1,000 GAL **	FIRST YEAR AVAILABILITY @ POUNDS PER 1,000 GAL
Moisture	%	88.04	7333.7	
Solids	%	11.96	996.3	
Nitrogen, Total (TKN)	%	0.275	22.9	14.4 *
Nitrogen, Ammonium (NH4-N)	%	0.129	10.7	10.7 *
Nitrogen, Organic (N)	%	0.146	12.2	3.7 *
Phosphorus (P)	%	0.078	14.8 (as P2O5)	14.8 (as P2O5) *
Potassium (K)	%	0.157	15.7 (as K2O)	15.7 (as K2O) *

@ Estimate of first-year availability does not account for incorporation losses. Consult MWPS-18, "Livestock Waste Facilities Handbook" for additional information.
* Source: MWPS-18, Livestock Waste Facilities Handbook, 1993
** Manure density assumed to be 8.33 lb/gallon

REPORT NO.
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WAYLAND, MI 49348-9772

FOR: WALNUTDALE FAMILY FARM

ATTN: Ex. 6 (Personal Privacy)

LAB NUMBER: 78808
MANURE TYPE: DAIRY, LIQUID PIT (20)
SAMPLE ID: XFER

MANURE ANALYSIS REPORT

DATE SAMPLED: 05/18/2015
DATE RECEIVED: 05/21/2015
DATE REPORTED: 05/22/2015

PARAMETER	UNIT	ANALYSIS RESULT (AS RECEIVED)	TOTAL POUNDS PER 1,000 GAL **	FIRST YEAR AVAILABILITY @ POUNDS PER 1,000 GAL
Moisture	%	99.57	8294.2	
Solids	%	0.43	35.8	
Nitrogen, Total (TKN)	%	0.044	3.7	2.7 *
Nitrogen, Ammonium (NH4-N)	%	0.028	2.3	2.3 *
Nitrogen, Organic (N)	%	0.016	1.3	0.4 *
Phosphorus (P)	%	0.005	1.0 (as P2O5)	1.0 (as P2O5) *
Potassium (K)	%	0.034	3.4 (as K2O)	3.4 (as K2O) *

@ Estimate of first-year availability does not account for incorporation losses. Consult MWPS-18, "Livestock Waste Facilities Handbook" for additional information.
* Source: MWPS-18, Livestock Waste Facilities Handbook, 1993
** Manure density assumed to be 8.33 lb/gallon

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FOR: WALNUTDALE FAMILY FARM

ATTN: Ex. 6 (Personal Privacy)

LAB NUMBER: 78809
MANURE TYPE: DAIRY, LIQUID PIT (20)
SAMPLE ID: CATCH BASIN

MANURE ANALYSIS REPORT

DATE SAMPLED: 05/18/2015
DATE RECEIVED: 05/21/2015
DATE REPORTED: 05/22/2015

PARAMETER	UNIT	ANALYSIS RESULT (AS RECEIVED)	TOTAL POUNDS PER 1,000 GAL **	FIRST YEAR AVAILABILITY @ POUNDS PER 1,000 GAL
Moisture	%	99.44	8283.4	
Solids	%	0.56	46.6	
Nitrogen, Total (TKN)	%	0.033	2.7	1.6 *
Nitrogen, Ammonium (NH4-N)	%	0.013	1.1	1.1 *
Nitrogen, Organic (N)	%	0.020	1.7	0.5 *
Phosphorus (P)	%	0.006	1.1 (as P2O5)	1.1 (as P2O5) *
Potassium (K)	%	0.012	1.2 (as K2O)	1.2 (as K2O) *

@ Estimate of first-year availability does not account for incorporation losses. Consult MWPS-18, "Livestock Waste Facilities Handbook" for additional information.
* Source: MWPS-18, Livestock Waste Facilities Handbook, 1993
** Manure density assumed to be 8.33 lb/gallon

ATTACHMENT 5: MANURE APPLICATION SUMMARIES

Walnutdale Dairy,

Manure Application Summary 2016

Field	Sub Field	Acres	Phos-Test (lbs/acre)	Soil Test Date	Crop 2016	Yield Goal	Actual Yield	Double Crop	Second Yield	Manure App/ acre (gal)	Type	Manure App/ acre (gal)	Type	Manure Total N (lbs)	1st year Manure N (lbs)	Manure P (lbs)	N credits (lbs)	Fert N app (lbs)	Fert P app (lbs)	Total N/Crop Year (lbs)	Total P/ Crop Year (lbs)	Basis for Calculation
Bastian M (PB-M)	M	8	64	2/24/2016	cs	20	23	*	*	10,600	f lagoon			3	2	3				2	3	N-Rate
Blain	S	28.4	24	4/7/2015	cs	20	23	*	*	8,229	all			71	49	83		104	50	153	133	N-Rate
Daryls (Dar)	Dar	13.9	95	11/25/2014	cs	20	23	*	*	5,600	all			48	34	57		104	50	138	107	N-Rate
Dykhouse NW (D16)	Nw	20	128	10/25/2016	Trit	40	41	cs	23	12,000	all			103	72	121		143	30	215	151	N-Rate
Dykhouse Front (D17A)	A	18	129	10/31/2016	alf	7	7	*	*	10,000	slurry			16	14	7	3	1	1	17	8	N-Rate
Dykhouse front (D17B)	B	20	152	10/31/2016	alf	7	7	*	*	10,000	slurry			16	14	7	3	1	1	17	8	P-Rate
Dykehouse Back (D18)	Back	15.5	125	10/31/2016	Trit	40	41	cs	23	7,250	all			62	44	73		143	49	187	122	N-Rate
Dykehouse Corn (D19)	A	21	289	10/10/2016	cs	20	23	*	*	30,000	f lagoon			9	6	9	25			31	9	P-Rate
Dykehouse Corn (D19)	B	22	257	10/10/2016	cs	20	23	*	*	30,000	f lagoon			9	6	9	25	40	0	71	9	P-Rate
Dykhouse West (D14)	1	25	179	11/25/2014	cs	20	23	*	*	5,600	all			48	34	57	21	40	0	95	57	P-Rate
Dykhouse West (D15)	West	20	115	11/25/2014	cs	20	23	*	*	5,600	all			48	34	57	21	40	0	95	57	N-Rate
Edsalls back (ED20)	1	18.2	102	9/20/2013	cs	20	23	*	*	12,700	all			109	76	128				76	128	N-Rate
Edsalls n of Dr (ED21A)	A	21.7	176	9/30/2014	cs	20	23	*	*	5,500	all			47	33	56		72	50	105	105	P-Rate
Edsalls N of Dr (ED21B)	B	21.7	168	9/30/2014	cs	20	23	*	*	5,500	all			47	33	56		72	50	105	105	P-Rate
Edsalls s of Dr (ED21C)	C	19.9	150	9/26/2013	cs	20	23	*	*	13,500	all			116	81	136				81	136	N-Rate
Edwards N (E41)	1	16.2	49	10/31/2016	Trit	40	41	cs	23	9,600	B Lagoon			69	51	51		94	0	144	51	N-Rate
Edwards 42 A (E42A)	42A	21.4	76	10/31/2016	CG	180	165	*	*	8,160	B Lagoon	6,600	all	116	116	116		72	0	188	116	N-Rate
Edwards 42 B (E42B)	42B	23.1	62	10/31/2016	CG	180	165	*	*	23,500	B Lagoon			169	125	125				125	125	N-Rate
Gas Station (GS)	GS	11.8	39	11/25/2014	cs	20	23	*	*	8,000	all			69	48	81		104	50	152	131	N-Rate
Home 3 (H3)	3	25	249	10/28/2014	alf	7	7	*	*	53,750	f Lagoon			16	11	16	5	18	4	33	20	P-Rate
Home 4 (H4-A)	A	18	191	10/29/2014	alf	7	7	*	*	53,750	f Lagoon			16	11	16	5	18	4	33	20	P-Rate
Home 4 (H4-B)	B	18	211	10/29/2014	alf	7	7	*	*	38,750	f Lagoon	15,000	Slurry	36	36	36	5	18	4	58	40	P-Rate
Home 5 (H5)	5	22	123	10/28/2014	CS	20	23	*	*	30,000	f lagoon			9	6	9	1	41	0	47	9	N-Rate
Home 6 (H6)	6	23	97	10/28/2015	Cs	20	23	*	*	30,000	f lagoon			9	6	9		41	0	47	9	N-Rate
Home 7 (H7)	7	17	229	10/28/2015	CS	20	23	*	*	30,000	f lagoon			9	6	9		41	0	47	9	P-Rate
Hubbie.Wilson S (HW-N)	N	4.5	52	12/23/2014	cs	20	23	*	*	10,600	F lagoon			3	2	3				2	3	N-Rate
Hubbie.Wilson S (HWNE)	NE	26	42	12/23/2014	cs	20	23	*	*	10,600	F lagoon			3	2	3				2	3	N-Rate
Hubbie.Wilson S (HWNW)	NW	24	94	12/23/2014	cs	20	23	*	*	10,600	F lagoon			3	2	3				2	3	N-Rate
Hubbie.Wilson S (HWSE)	SE	29	48	12/23/2014	cs	20	23	*	*	10,600	F lagoon			3	2	3				2	3	N-Rate
Hubbie.Wilson S (HWSW)	SW	27.5	146	12/23/2014	cs	20	23	*	*	10,600	F lagoon			3	2	3				2	3	N-Rate
Jacksons M (J51 B)	B	22	276	8/1/2016	alf	7	8	*	*	6,900	Slurry			11	10	5		19	6	28	11	P-Rate
Jacksons M (J51C)	C	22	240	8/1/2016	alf	7	8	*	*	6,900	Slurry			11	10	5		19	6	28	11	P-Rate
Jacksons NW (J48)	48	14.3	140	8/1/2016	alf	7	8	*	*	6,900	Slurry			11	10	5		19	6	28	11	N-Rate
Jacksons NW2 (J49)	49	13.1	209	8/1/2016	alf	7	8	*	*	6,900	Slurry			11	10	5		19	6	28	11	P-Rate
Jacksons W (J50)	50	26.2	219	8/1/2016	alf	7	8	*	*	6,900	Slurry			11	10	5		19	6	28	11	P-Rate
Nowak Bradley (17-1)	1	20.3	38	5/4/2015	cs	20	23	*	*	7,680	B Lagoon			55	41	41	18	104	49	163	90	N-Rate
Nowak Bradley (17-2)	2	17	30	5/4/2015	cs	20	23	*	*	7,680	B Lagoon			55	41	41		104	49	145	90	N-Rate
Nowak Bradley (17-3)	3	18	38	5/4/2015	cs	20	23	*	*	7,680	B Lagoon			55	41	41		104	52	145	93	N-Rate
Nowak Bradley (17-4)	4	18	64	5/4/2015	cs	20	23	*	*	7,680	B Lagoon			55	41	41		104	52	145	93	N-Rate
Nowak Bradley (17-5)	5	20	51	5/4/2015	cs	20	23	*	*	7,680	B Lagoon			55	41	41		104	52	145	93	N-Rate

Walnutdale Dairy,

Manure Application Summary 2016

Field	Sub Field	Acres	Phos-Test (lbs/acre)	Soil Test Date	Crop 2016	Yield Goal	Actual Yield	Double Crop	Second Yield	Manure App/ acre (gal)	Type	Manure App/ acre (gal)	Type	Manure Total N (lbs)	1st year Manure N (lbs)	Manure P (lbs)	N credits (lbs)	Fert N app (lbs)	Fert P app (lbs)	Total N/Crop Year (lbs)	Total P/ Crop Year (lbs)	Basis for Calculation
Nowak Bradley (17-6)	6	10	46	5/4/2015	cs	20	23	*	*	7,680	B Lagoon			55	41	41		104	52	**145**	**93**	N-Rate
Nowak Bradley (17-7)	7	17	50	5/4/2015	cs	20	23	*	*	7,680	B Lagoon			55	41	41		104	52	**145**	**93**	N-Rate
Nowaks 135th (N40C)	C	4.1	22	11/28/2016	cs	20	23	*	*	5,000	All			43	30	51	2	143	50	**175**	**101**	N-Rate
Nowaks 136th (N40A)	1	22.4	61	10/18/2016	cs	20	23	*	*	13,727	All			118	82	139		72	50	**154**	**188**	N-Rate
Nowaks 136th (N40B)	B	9	68	10/18/2016	cs	20	23	*	*	8,727	All	5,000	B Lagoon	111	79	115	2	72	50	**152**	**165**	N-Rate
Peterman (Pete)	Pete	12.6	61	5/7/2015	wg	70	70	*	*	8,308	All			71	50	84		99	1	**149**	**85**	N-Rate
Sivak (JS53A)	A	24	211	9/30/2016	cs	20	23	*	*	5,000	all			43	30	51	24	41	0	**95**	**51**	P-Rate
TH	N	16	82	3/27/2014	cs	20	23	*	*	9,640	all			83	58	97				**58**	**97**	N-Rate
TH	SE	15	198	3/27/2014	cs	20	23	*	*	9,640	all			83	58	97				**58**	**97**	P-Rate
TH	SW	28	138	3/27/2014	cs	20	23	*	*	9,640	all			83	58	97				**58**	**97**	N-Rate
Thomas 44 (T44)	44	12.3	181	10/8/2014	alf	7	7	*	*	8,030	F lagoon			2	2	2		18	5	**20**	**8**	P-Rate
Thomas 45 (T45)	45	9.7	121	10/8/2014	alf	7	7	*	*	8,030	F lagoon			2	2	2		18	5	**20**	**8**	N-Rate
United Bank N (UB37)	A	21.6	63	10/8/2014	alf	7	7	*	*	5,000	B lagoon			36	27	27		18	5	**45**	**32**	N-Rate
United Bank S (UB37)	B	21.5	74	10/8/2014	alf	7	7	*	*	5,000	B lagoon			36	27	27		18	5	**45**	**32**	N-Rate
Wingers 14th (W38N)	N	19.4	160	10/7/2016	cs	20	23	*	*	17,400	B Lagoon			125	92	92		72	0	**164**	**92**	P-Rate
Wingers 14th (W38S)	S	19.4	80	10/7/2016	cs	20	23	*	*	17,400	B Lagoon			125	92	92		72	50	**164**	**142**	N-Rate

Walnutdale Dairy,
Manure Application Summary 2015

Walnutdale Application Summary 2015

Field	Sub Field	Acres	Phos-Test (lbs/acre)	Test Date*	Crop 2015	Yield Goal	Actual Yield	Manure Appl/ acre (gal)	Type	Total Manure Applied (gal)	Manure Total N (lbs)	1st year Manure N (lbs)	Manure P (lbs)	Fert N app (lbs)	Total N/Crop Year (lbs)	Total P/ Croo Year (lbs)	Basis for Calculation	Crop 2016	Yield Goal
BH	F	14	78	2014	CS	20	22.0	7300.0	Slurry	102,200	16	12	5	0	12	5	N-Rate	CS	22
BH	G	26	144	2014	Cs	20	22.0	7300.0	Slurry	189,800	16	12	5	0	12	5	N-Rate	CS	22
C65N	N	17.9	37	2015	CS	23	22.0	7300.0	B lagoon	130,670	134	84	63	25	109	63	N-Rate	CS	22
C65N	S	17.9	58	2015	cs	23	22.0	7300.0	B lagoon	130,670	134	84	63	25	109	63	N-Rate	CS	22
C66	Sw	17	40	2013	CS	20	21.0	6691.0	B lagoon	113,747	123	77	58	21	98	58	N-Rate	CS	22
C68	Se	24.4	59	2013	Cs	20	19.0	7300.0	B lagoon	178,120	134	84	63	21	105	63	N-Rate	CS	22
C69	S	7	30	2013	cs	20	21.0	6691.0	B lagoon	46,837	123	77	58	21	98	58	N-Rate	CS	22
D14	1	25	179	2014	Cs	23	21.0	6488.0	6&7	162,200	97	49	55	63	112	55	P-Rate	CS	22
D15	West	20	115	2014	Cs	23	21.0	6488.0	6&7	129,760	97	49	55	63	112	55	N-Rate	CS	22
D17	B	20	152	2014	Cs	23	21.0	9221.0	Slurry	184,420	20	15	6	4	19	6	P-Rate	All	7
D18	Back	15.5	130	2014	CS	23	21.0	9221.0	Slurry	142,926	20	15	6	26	41	6	N-Rate	All	7
D19	B	22	257	2013	Cs	23	22.0	7821.0	6&7	172,062	117	59	66	28	87	66	P-Rate	CS	22
Dewitt	NW	13	101	2015	all	7	7.0	9080	Slurry	118,040	20	15	6	23	38	6	N-Rate	WG	85
Dewitt	SE	27	65	2015	all	7	7.0	9080	Slurry	245,160	20	15	6	23	38	6	N-Rate	WG	85
H3	1	25	249	2014	CS	20	19.0	39306.0	F Lagoon	982,650	24	12	12	4	16	12	P-Rate	All	7
H4	A	18	191	2014	all	7	7.0	39306.0	F Lagoon	707,508	24	12	12	4	16	12	P-Rate	All	7
H4	B	18	211	2014	all	7	7.0	39306.0	F Lagoon	707,508	24	12	12	4	16	12	P-Rate	All	7
H4	CD	32.1	168	2014	Cs	20	22.0	7078.0	Slurry	227,204	16	11	5	46	57	5	P-Rate	CS	22
H5	1	21	123	2014	Cs	20	16.7	6248.0	F Lagoon	131,208	4	2	2	0	2	2	N-Rate	CS	22
J South	1	25.2	237	2014	Cs	18	21.0	7423.0	Slurry	187,060	16	12	5	0	12	5	P-Rate	CS	22
J South	2	16	236	2014	Cs	18	21.0	7423.0	Slurry	118,768	16	12	5	0	12	5	P-Rate	CS	22
J South	3	15.2	179	2014	Cs	18	21.0	7423.0	Slurry	112,830	16	12	5	0	12	5	P-Rate	CS	22
Nederhood	WN	22	244	2014	Cs	20	20.0	6968.0	1&2	153,296	95	60	63	0	60	63	P-Rate	CS	22
Nederhood	WS	23	244	2016	Cs	20	20.0	6968.0	1&2	160,264	95	60	63	0	60	63	P-Rate	CS	22
Newak	1	22.4	87	2013	Cs	20	20.0	7964.0	Slurry	178,394	18	13	6	25	38	6	N-Rate	cs	22
Newak	B	9	22	2013	Cs	20	20.0	7964.0	Slurry	71,676	18	13	6	25	38	6	N-Rate	CS	22
Newak	C	4.1	44	2013	Cs	20	20.0	7964.0	Slurry	32,652	18	13	6	25	38	6	N-Rate	CS	22
s winger	N	19.4	77	2013	Cs	23	21.0	8212.0	B lagoon	159,313	151	94	71	37	131	71	N-Rate	CS	22
s winger	S	19.4	150	2013	Cs	23	21.0	8212.0	B lagoon	159,313	151	94	71	37	131	71	P-Rate	CS	22
Sivak	A	24	231	2014	Cs	20	20.0	8176.0	B lagoon	196,224	150	94	70	23	117	70	P-Rate	CS	22
W22	N	18.7	176	2013	Cs	20	20.0	6752	Slurry	126,262	15	11	5	0	11	5	P-Rate	CS	22
W22	S	18.7	176	2013	CS	20	20.0	6752	Slurry	126,262	15	11	5	0	11	5	P-Rate	CS	22

Fall of 2014 spreading records were submitted with 2014 annual report. This report shows the spring spreading for the 2015 crop year. See 2014 annual report for Fall manure that applies to 2015 crop

Walnutdale Dairy 2014 Manure & Commercial Fertilizer Report Summary

														Manure Nutrients				Commercial Fert. Nutrients			Total Nutrients		
Field	Acres	PPM	lbs/acre	Soil Test Date	Target Crop	2014 Yield Goal Corn silage - Wet Baylage - Dry	2014 Yields Achieved Corn silage - Wet Haylage - Dry	Rate/Acre	Rate Basis	Loads, Speed or Time	Acres Cov.	Total Amount Applied	Nitrogen Credits lbs/acre	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)
Chesebro 40N (C65N)	30	15.5	31	6/18/2011	Corn silage		20						5	167	185	294	128	4	3	300	189	297
Chesebro 40N (C65N)					Corn silage			7,787 Gal	Custom	32 Lds	30	233,600		114	92	164						
Chesebro 40N (C65N)					Corn silage			7,717 Gal	Custom	31.8 Lds	30.1	232,140		53	93	130						
Chesebro 55S (C65S)	6	43	86	10/26/2011	Corn grain	150	140	7,717 Gal	Custom	6.4 Lds	6.1	46,720	5	113	91	163	128	4	3	246	95	166
Chesebro 70 (C70)	25	5.75	11.5	10/6/2014	Alfalfa topdress	12	12						1	3	8	26	0	0	180	4	8	206
Chesebro 70 (C70)					Alfalfa topdress			8,344 Gal	Custom	26.6 Lds	23.3	194,180		3	8	26						
Chesebro 70 (C70)					Alfalfa topdress			8,760 Gal	Custom	2.1 Lds	1.8	15,400		63	122	163						
Chesebro SE (C68)	24	14.7	29.4	2013	Corn silage	20	20						6	176	119	215	32	4	3	208	123	218
Chesebro SE (C68)					Corn silage			7,300 Gal	Custom	24 Lds	24	175,200		31	28	52						
Chesebro SE (C68)					Corn silage			7,717 Gal	Custom	26.5 Lds	24	185,500		145	91	163						
Chesebro SM (C67)	17	23.5	47	2013	Wheat	80	65	7,729 Gal	Custom	18 Lds	17	131,400	4	114	91	163	83	0	0	201	91	163
Chesebro SW (C66)	20	19	38	2013	Alfalfa topdress	12	10	8,344 Gal	Custom	21.3 Lds	18.6	155,490	1	3	8	26	0	0	150	4	8	176
Dykehouse Back (D18)	18	34	68	2013	Corn silage	22	22	7,695 Gal	Custom	19 Lds	18	138,700	5	33	29	55	106	4	3	144	33	58
Dykehouse Corn (D19)	56	120.6	241	10/14/2013	Corn silage	24	28	8,343 Gal	Custom	24 Lds	21	175,200	36	106	93	164	32	4	3	174	97	167
Dykhouse NW (D16)	18	47.5	95	2013	Corn silage	22	22	7,695 Gal	Custom	19 Lds	18	138,700	5	33	29	55	106	4	3	144	33	58
Dykhouse West (D14)	25	57.5	115	11/25/2014	Corn silage	22	24	7,787 Gal	Custom	25.6 Lds	24.9	194,180	23	118	108	163	32	4	3	173	112	166
Dykhouse West (D15)	20	89.5	179	11/25/2014	Corn silage	22	24	7,787 Gal	Custom	21.4 Lds	20.1	156,270	20	114	92	164	32	4	3	166	96	167
Edsalls back (ED20)	19	51	102	9/20/2013	Corn silage	22	20	8,473 Gal	Custom	25.6 Lds	19.1	180,600	5	176	112	200	32	4	3	215	116	203
Edsalls n of Dr (ED21A)	22	87.5	175	9/30/2014	Corn silage	22	24						7	120	109	175	122	4	3	249	113	178
Edsalls n of Dr (ED21A)					Corn silage			8,111 Gal	Custom	24.4 Lds	22	178,120		35	31	58						
Edsalls n of Dr (ED21A)					Corn silage			5,592 Gal	Custom	42.5 Lds	22	123,250		85	78	117						
Edsalls N of Dr (ED21B)	23	83.5	167	9/30/2014	Corn silage	22	24						7	120	109	175	122	4	3	249	113	178
Edsalls N of Dr (ED21B)					Corn silage			8,111 Gal	Custom	27.7 Lds	24.9	202,210		35	31	58						
Edsalls N of Dr (ED21B)					Corn silage			5,592 Gal	Custom	40.7 Lds	21.1	118,030		85	78	117						
Edsalls s of Dr (ED21C)	20	74.5	149	2013	Rye & Corn Silage	4&20	4&18	9,125 Gal	Custom	25 Lds	20	182,500	35	39	35	95	106	4	3	180	39	98
Edwards 42 A (E42A)	23	50	100	2013	AA / Corn Silage	3&20	3&18						25	62	66	186	122	4	3	209	70	189
Edwards 42 A (E42A)					Alfalfa topdress			7,989 Gal	Custom	24 Lds	21.9	175,200		3	7	25						
Edwards 42 A (E42A)					Corn silage			15.5 Tons	Custom	35.7 Lds	23	357		59	59	161						
Edwards 42 B (E42B)	22	17.75	35.5	2013	AA / Corn Silage	3&20	3&18						4	62	66	186	122	4	3	188	70	189
Edwards 42 B (E42B)					Alfalfa topdress			7,989 Gal	Custom	23 Lds	21	167,900		3	7	25						
Edwards 42 B (E42B)					Corn silage			15.5 Tons	Custom	34.2 Lds	22.1	342		59	59	161						
Edwards N (E41)	17	17	34	2013	Wheat	80	70	8,588 Gal	Custom	20 Lds	17	146,000	23	131	119	178	83	0	0	237	119	179
Gas Station (GS)	9	19.5	39	11/8/2014	Corn grain	150	168	3,750 Gal	Custom	12 Lds	9.3	34,800	0	16	14	27	122	4	3	138	18	30
GVA-Bakker (GVA)	54	40	80	8/7/2013	Corn grain	180	175						0	60	58	104.5	152	28	95	202	86	199.5
GVA-Bakker (GVA)					Corn grain			7,787 Gal	Custom	32 Lds	30	233,600		23	30	55						
GVA-Bakker (GVA)					Corn grain			7,300 Gal	Custom	30 Lds	30	219,000		77	86	154						
Home 2 (H2)	17	133	266	9/10/2011	Rye & Corn Silage	4&20	4&18	7,936 Gal	Custom	16.4 Lds	15.1	119,720	0	13	7	25	232	4	3	245	11	28
Home 3 (H3)	24	111.5	223	10/29/2014	Alfalfa seeding	3	4						0	74	48	102	0	0	0	74	48	102
Home 3 (H3)					Alfalfa seeding			7,938 Gal	Custom	26.1 Lds	24	190,530		13	7	25						
Home 3 (H3)					Alfalfa seeding			10,776 Gal	Custom	37 Lds	24	259,000		61	41	77						
Home 4 (H4A)	18	114.5	229	10/29/2014	Alfalfa seeding	3	4	7,938 Gal	Custom	19.6 Lds	18	143,080	4	13	7	25	0	0	0	17	7	25
Home 4 (H4B)	19	110	220	11/8/2014	Alfalfa seeding	3	4						4	120	101	190	0	0	0	124	101	190
Home 4 (H4B)					Alfalfa seeding			8,395 Gal	Custom	23 Lds	20	167,900		107	94	165						
Home 4 (H4B)					Alfalfa seeding			7,938 Gal	Custom	19.6 Lds	18	143,080		13	7	25						
Home 4 (H4C)	18	78.5	157	11/8/2014	AA / Corn Silage	3&20	3&26						29	8	23	71	122	4	3	157	27	74
Home 4 (H4C)					Corn silage			16,531 Gal	Custom	3.8 mph	16	295,496		2	7	22						
Home 4 (H4C)					Corn silage			23,000 Gal	Custom	2.9 mph	16	368,000		2	9	28						
Home 4 (H4C)					Corn silage			17,727 Gal	Custom	3.7 mph	16	283,632		2	7	21						
Home 4 (H4D)	17	90	180	11/8/2014	AA / Corn Silage	3&20	3&26						32	8	23	71	122	4	3	160	27	74
Home 4 (H4D)					Corn silage			16,531 Gal	Custom	3.6 mph	17	315,027		2	7	22						
Home 4 (H4D)					Corn silage			17,727 Gal	Custom	3.7 mph	17	301,359		2	7	21						
Home 4 (H4D)					Corn silage			23,000 Gal	Custom	2.9 mph	17	391,000		2	9	28						

Field	Acres	PPM	lbs/acre	Soil Test Date	Target Crop	2014 Yield Goal Corn silage - Ton Haylage - Dry	2014 Yields Achieved Corn Silage - Ton Haylage - Dry	Rate/Acre	Rate Basis	Loads, Speed or Time	Acres Cov.	Total Amount Applied	Nitrogen Credits lbs/acre	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)
Home 5 (H5)	21	56.5	113	11/5/2014	Corn silage		24	26					6	31	29	71	32	4	3	68	33	74
Home 5 (H5)					Corn silage				4,050 Gal	Custom	20 Lds	14.3	58,000		17	15	29					
Home 5 (H5)					Corn silage				34,955 Gal	Custom	1.9 mph	21	727,620		14	14	42					
Home 6 (H6)	22	67.5	135	11/5/2014	Corn silage		24	20						5	31	29	71	32	4	3	68	33	74
Home 6 (H6)					Corn silage				4,050 Gal	Custom	20.7 Lds	22	89,030		17	15	29					
Home 6 (H6)					Corn silage				34,955 Gal	Custom	1.9 mph	22	781,790		14	14	42					
Home 7 (H7)	15	130.5	261	11/5/2014	Corn silage		24	26						31	31	29	71	32	4	3	94	33	74
Home 7 (H7)					Corn silage				4,050 Gal	Custom	20.9 Lds	15	60,610		17	15	29					
Home 7 (H7)					Corn silage				34,955 Gal	Custom	1.9 mph	15	518,580		14	14	42					
Home 8 (H8)	14	119.5	239	11/6/2014	Alfalfa topdress		22	24	18.6 Tons	Custom	26.1 Lds	14	261	0	50	186	279	0	0	0	50	186	279
Jackson South (Jack9)	80	108.5	217	4/10/2014	Corn silage		22	20	9,403 Gal	Custom	77.8 Lds	60	564,290	0	143	131	197	106	4	158	249	135	355
Jacksons M (J51 A)	24	147	294		2013 Alfalfa topdress		14	15	8,783 Gal	Custom	21 Lds	11.9	60,300	0	2	3	8	0	0	180	2	3	188
Jacksons M (J51 B)	22	124	248		2013 Alfalfa topdress		14	15	8,783 Gal	Custom	21 Lds	22.7	153,300	4	2	3	8	0	0	180	6	3	188
Jacksons M (J51C)	22	112.5	225		2013 Alfalfa topdress		14	15	8,783 Gal	Custom	21 Lds	22.7	153,300	4	2	3	8	0	0	180	6	3	188
Loyalsock M (Lev)	45	28.5	63	10/21/2011	Corn grain		150	138	7,787 Gal	Custom	50.1 Lds	45	350,700	4	146	92	194	32	4	158	182	96	322
Maynards (M13)	23	45	90	8/18/2011	Rye & Corn Silage	4&20	4&22							3	180	190	232	122	4	3	305	134	235
Maynards (M13)					Rye for cover				7,617 Gal	Custom	24 Lds	23	175,200		33	29	54					
Maynards (M13)					Corn silage				9,038 Gal	Custom	27.1 Lds	21	189,800		147	101	178					
Nederhood/W-n (nw-n)	24	103	206	9/29/2013	Corn silage		24	26	7,787 Gal	Custom	26.7 Lds	24	186,900	0	127	87	155	100	4	3	227	91	156
Nederhood/W-s (nw-s)	23	110	220	9/29/2013	Corn silage		24	26	7,787 Gal	Custom	23.4 Lds	21	163,800	0	127	87	155	100	4	3	227	91	156
Nowaks 136th (N40A)	18	21.5	43	2013	Alfalfa topdress		10	12						6	41	76	140	0	0	180	49	76	328
Nowaks 136th (N40A)					Alfalfa topdress				7,869 Gal	Custom	19 Lds	17.6	138,700		3	7	24					
Nowaks 136th (N40A)					Alfalfa topdress				5,887 Gal	Custom	14.6 Lds	18.1	106,550		38	69	124					
Nowaks 136th (N40B)	15	20	40	2013	Alfalfa topdress		10	12						6	41	76	140	0	0	180	49	76	328
Nowaks 136th (N40B)					Alfalfa topdress				7,869 Gal	Custom	16 Lds	14.6	116,800		3	7	25					
Nowaks 136th (N40B)					Alfalfa topdress				5,887 Gal	Custom	12.1 Lds	15	88,330		38	69	124					
Petersen (Pet9)	14	4.5	9	10/25/2011	Corn grain		140	152	7,300 Gal	Custom	15 Lds	15	109,500	7	93	82	144	122	4	3	222	86	147
R UR 137th E (R5E)	24	87	174	12/23/2011	Corn grain		175	180	8,983 Gal	Custom	23 Lds	24	197,900	2	103	82	147	100	0	0	205	82	147
R UR 137th W (R5W)	22	126	252	12/23/2011	Corn grain		175	180	8,983 Gal	Custom	21 Lds	22	153,300	2	89	78	138	100	0	0	191	78	138
Sivak (JS53A)	25	55	110	2013	Corn silage		20	26						15	193	156	242	32	4	158	240	160	400
Sivak (JS53A)					Corn silage				5,840 Gal	Custom	20 Lds	25	146,000		9	22	41					
Sivak (JS53A)					Corn silage				9,614 Gal	Custom	24.4 Lds	25	240,800		184	134	201					
Sivak (JS53B)	20	43	86	2013	Corn silage		20	20						1	193	156	242	32	4	158	226	160	400
Sivak (JS53B)					Corn silage				5,840 Gal	Custom	16 Lds	20	116,800		9	22	41					
Sivak (JS53B)					Corn silage				9,614 Gal	Custom	27.5 Lds	20	192,500		184	134	201					
Sivak (JS53C)	18	97	194	2013	Corn silage		20	26	7,286 Gal	Custom	18 Lds	18	131,400	1	12	7	23	32	4	158	45	11	181
Sivak (JS53D)	16	77	154	2013	Corn silage		20	26	7,286 Gal	Custom	18 Lds	18	131,400	1	12	7	23	32	4	158	45	11	181
Sivak (JS53E)	9	61	122	2013	Corn silage		20	26	7,286 Gal	Custom	9 Lds	9	65,700	1	12	7	23	32	4	158	45	11	181
Wingers (W22A)	20	38.5	77	10/11/2013	Rye & Corn Silage	4&20	4&22							7	264	230	345	106	4	3	397	234	348
Wingers (W22A)					Rye for cover				8,030 Gal	Custom	22 Lds	20	160,600		122	112	168					
Wingers (W22A)					Corn silage				8,484 Gal	Custom	24.3 Lds	20	170,100		182	118	177					
Wingers (W22B)	20	75.5	151	10/11/2013	Rye & Corn Silage	4&20	4&22							12	260	213	340	106	4	3	398	217	349
Wingers (W22B)					Rye for cover				8,030 Gal	Custom	22 Lds	20	160,600		118	95	169					
Wingers (W22B)					Corn silage				8,484 Gal	Custom	24.3 Lds	20	170,100		182	118	177					
Wingers 14th (W38N)	20	75	150	2013	Corn silage		22	24						7	130	124	223	32	4	3	169	128	226
Wingers 14th (W38N)					Corn silage				8,030 Gal	Custom	22 Lds	20	160,600		118	95	169					
Wingers 14th (W38N)					Corn silage				7,674 Gal	Custom	21.1 Lds	20.1	154,030		12	29	54					
Wingers 14th (W38S)	20	38.5	77	2013	Corn silage		22	24						7	134	141	222	32	4	3	173	145	225
Wingers 14th (W38S)					Corn silage				8,030 Gal	Custom	22 Lds	20	160,600		122	112	168					
Wingers 14th (W38S)					Corn silage				7,674 Gal	Custom	21.1 Lds	20.1	154,030		12	29	54					
X-Bank E (xbe)	18	46	92	8/12/2014	Wheat	80	86		8,089 Gal	Custom	21 Lds	19	153,300	5	35	31	57	83	0	0	123	31	57
X-Bank W (xbw)	18	38.5	77	8/12/2014	Wheat	80	85		8,089 Gal	Custom	20 Lds	18	146,000	5	35	31	57	83	0	0	123	31	57

Walnutdale Dairy 2014 Manure Application Plan Summary

Month-Year	Field	Acres	Soil Test (P) PPM	Soil Test (P) Lbs/Ac	Target Crop	2013 Yield Goal Corn Silage Tons are wet	2013 Yields Achieved Wet Tons/acre	Rate/Acre	Total Amount Applied Gallons:	Nitrogen Credit (Lbs/A)	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)	Comm. Fert N (Lbs/A)	Comm. Fert. P_2O_5 (Lbs/A)	Total N (Lbs/A)	Total P_2O_5 (Lbs/A)	Total P (Lbs/A)
2013 Totals	Home 4 (H4D)	17	82.5	165	Alfalfa topdress	7 Tons	6 Tons			29	122	136	302	0	0	151	136	59
Jun-13	Home 4 (H4D)				Alfalfa topdress			7,497 Gal	124,100		110	88	158					
Jun-13	Home 4 (H4D)				Alfalfa topdress			46,800 Gal	786,240		5	19	56					
Jul-13	Home 4 (H4D)				Alfalfa topdress			33,409 Gal	573,540		3	13	40					
Aug-13	Home 4 (H4D)				Alfalfa topdress			40,363 Gal	679,320		4	16	46					
2013 Totals	Home 5 (H5)	21	23.5	47	Corn silage	21	18 tons			25	43	38	75	134	0	202	38	17
Nov-12	Home 5 (H5)				Corn silage			9,250 Gal	194,250		40	35	66					
Apr-13	Home 5 (H5)				Corn silage			7,725 Gal	146,000		3	3	9					
2013 Totals	Home 6 (H6)	22	26	52	Corn silage	21	18 Tons			51	17	38	75	134	0	202	38	17
Nov-12	Home 6 (H6)				Corn silage			9,250 Gal	203,500		14	35	66					
Apr-13	Home 6 (H6)				Corn silage			7,725 Gal	154,500		3	3	9					
2013 Totals	Home 7 (H7)	15	133	266	Corn silage	21	18 Tons			52	139	149	238	134	0	325	149	65
Nov-12	Home 7 (H7)				Corn silage			9,250 Gal	138,750		14	35	66					
May-13	Home 7 (H7)				Corn silage			8,212 Gal	131,400		125	114	172					
May-13	Home Scale (Home4)	4	113	226	Corn silage	20	19 Tons	8,760 Gal	43,800	0	129	103	185	76	0	205	103	45
Apr-13	Jacksons E (J52 A)	19	106.5	213	Wheat/Alfalfa Seeding	75 bu/3T	55bu & 1 T	5,283 Gal	100,500	4	78	62	112	167	0	249	62	27
Apr-13	Jacksons E (J52 B)	19	88	176	Wheat/Alfalfa Seeding	75 bu/3T	55bu & 1 T	5,283 Gal	102,200	4	78	62	112	167	0	249	62	27
Apr-13	Jacksons M (J51 A)	11	147	294	Triticale/Alfalfa Seeding	3 Tons	6 & 2 T	7,159 Gal	80,300	15	31	27	51	109	0	155	27	12
Apr-13	Jacksons M (J51 B)	22	124	248	Triticale/Alfalfa Seeding	3 Tons	6 & 2 T	7,159 Gal	160,600	15	31	27	51	109	0	155	27	12
Apr-13	Jacksons M (J51C)	22	112.5	225	Triticale/Alfalfa Seeding	3 Tons	6 & 2 T	7,159 Gal	160,600	15	31	27	51	109	0	155	27	12
May-13	Jacksons NW2 (J49)	14	107.5	215	Wheat/Alfalfa Seeding	75bu & 3T	55bu & 1 T	6,551 Gal	91,250	12	28	25	47	167	0	207	25	11
2013 Totals	Jacksons W (J50)	28	106	212	Triticale/Alfalfa Seeding	6&3T	6 & 2 t			15	72	64	120	109	0	196	64	28
Sep-12	Jacksons W (J50)				Triticale Silage			10,286 Gal	288,000		44	39	73					
May-13	Jacksons W (J50)				Alfalfa seeding			6,551 Gal	183,230		28	25	47					
Oct-12	Justine Stora (JS33)	23	44	88	Corn silage	22	17 Tons	9,391 Gal	216,000	1	14	36	87	122	0	137	36	16
Sep-12	Leverdoski (Lev)	46	26.5	53	Triticale/Corn silage	8 & 17 Tons	6 & 15 Tons	8,600 Gal	396,000	0	38	33	62	287	0	325	33	14
Nov-12	Nederhood East (NadE)	28	79.5	159	Corn silage	20	21 Tons	8,985 Gal	251,600	4	114	101	177	114	0	232	101	44
Sep-12	Nowaks 135th (N40C)	4	46	92	Corn silage	17	17 Tons	4,507 Gal	18,028	0	2	4	14	147	0	149	4	2
2013 Totals	Nowaks 136th (N40A)	18	21.5	43	Alfalfa topdress	6 tons	3.5 Tons			5	9	20	66	0	0	14	20	9
Sep-12	Nowaks 136th (N40A)				Alfalfa topdress			4,507 Gal	81,126		2	4	14					
Jun-13	Nowaks 136th (N40A)				Alfalfa topdress			6,607 Gal	118,990		3	6	20					
Jul-13	Nowaks 136th (N40A)				Alfalfa topdress			5,160 Gal	92,710		2	5	16					
Aug-13	Nowaks 136th (N40A)				Alfalfa topdress			5,165 Gal	92,710		2	5	16					
2013 Totals	Nowaks 136th (N40B)	15	20	40	Alfalfa topdress	6 tons	3.5 Tons			1	9	20	66	0	0	10	20	9
Sep-12	Nowaks 136th (N40B)				Alfalfa topdress			4,507 Gal	87,606		2	4	14					
Jun-13	Nowaks 136th (N40B)				Alfalfa topdress			6,607 Gal	99,280		3	6	20					
Jul-13	Nowaks 136th (N40B)				Alfalfa topdress			5,160 Gal	77,380		2	5	16					
Aug-13	Nowaks 136th (N40B)				Alfalfa topdress			5,165 Gal	77,380		2	5	16					
May-13	O Blaine NE (OBNE)	13	13	26	Corn silage	18 tons	19 Tons	7,678 Gal	99,280	4	33	29	55	157	51	194	80	35
May-13	O Blaine NW (OBNW)	14	6	12	Corn silage	18 tons	19 Tons	7,678 Gal	107,910	4	33	29	55	157	51	194	80	35
May-13	O Blaine SE (OBSE)	9	7	14	Corn silage	18 tons	19 Tons	7,678 Gal	61,320	4	33	29	55	157	51	194	80	35
May-13	O Blaine SM (OBSM)	8	2	4	Corn silage	18 tons	19 Tons	7,578 Gal	61,320	4	33	29	54	157	51	194	80	35
May-13	O Blaine SW (OBSW)	15	5	10	Corn silage	18 tons	19 Tons	7,678 Gal	114,610	4	33	29	55	157	51	194	80	35
Sep-12	Peterman (Pete)	14	4.5	9	Wheat	75 bu	60 bu	8,307 Gal	108,000	8	38	32	59	125	53	167	85	37
Apr-13	R Bobs Back (R7BH)	19	63	126	Corn grain	150 bu	135 bu	7,684 Gal	146,000	8	12	7	24	120	0	140	7	3
Apr-13	R Bobs SE (R8BSE)	15	34	68	Corn grain	150 bu	135 bu	7,621 Gal	131,400	4	115	92	165	60	0	179	92	40
Dec-12	R Evert 9th M (R4E9M)	20	255	510	Corn grain	150 bu	175	8,160 Gal	163,200	4	120	96	172	60	0	184	96	42
Dec-12	R Evert 9th N (R4E9N)	20	187	374	Corn grain	150 bu	175	8,160 Gal	163,200	4	53	96	172	120	0	177	96	42
Dec-12	R Evert 9th S (R4E9S)	20	101	202	Corn grain	150 bu	175	8,160 Gal	163,200	4	56	99	138	120	0	180	99	43

Walnutdale Dairy 2014 Manure Application Plan Summary

Month-Year	Field	Acres	Soil Test (P) PPM	Soil Test (P) Lbs/Ac	Target Crop	2013 Yield Goal Corn Silage Tons are wet	2013 Yields Achieved Wet Tons/acre	Rate/Acre	Total Amount Applied	Nitrogen Credits (Lbs/A)	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)	Comm. Fert. N (Lbs/A)	Comm. Fert. P_2O_5 (Lbs/A)	Total N (Lbs/A)	Total P_2O_5 (Lbs/A)	Total P (Lbs/A)
									Gallons:									
		1254							17999770.5									
May-13	Bastian E (PB-E)	7	91	182	Alfalfa topdress	4 tons	3 tons	7,300 Gal	51,100	0	93	82	144	0	0	93	82	36
May-13	Bastian M (PB-M)	8	35	70	Corn grain	150 bu	135 bu	7,300 Gal	58,400	0	111	101	153	50	0	161	101	44
May-13	Bastian S (PB-S)	4	39	78	Alfalfa topdress	4 tons	3 tons	7,300 Gal	29,200	0	111	101	153	0	0	111	101	44
May-13	Bastian W (PB-W)	14	20	40	Alfalfa topdress	4 tons	3 tons	7,300 Gal	102,200	0	93	82	144	0	0	93	82	36
Oct-12	Chesebro 40N (C65N)	30	15.5	31	Corn silage	20	21 Tons	7,879 Gal	236,370	2	34	30	56	155	49	191	79	34
Oct-12	Chesebro 65S (C65S)	6	43	86	Corn silage	20	21 Tons	7,879 Gal	47,274	2	34	30	56	155	49	191	79	34
Jul-13	Chesebro 70 (C70)	25	11	22	Alfalfa topdress	6	5 tons	7,300 Gal	182,500	0	3	7	23	0	0	3	7	3
Oct-12	Chesebro SM (C67)	17	23.5	47	Corn silage	20	17 Tons	7,879 Gal	133,943	0	12	30	56	155	49	167	79	34
Jul-13	Chesebro SW (C66)	20	19	38	Alfalfa topdress	5	4 Tons	7,300 Gal	146,000	0	3	7	23	0	0	3	7	3
Oct-12	Dykehouse Back (D18)	18	34	68	Corn silage	23	17 Tons	9,250 Gal	166,500	0	40	35	66	112	0	152	35	15
2013 Totals	Dykehouse Corn (D19)	56	120.5	241	Triticale/Corn silage	8 & 20	8&18Tons			38	165	181	288	182	0	385	181	79
Sep-12	Dykehouse Corn (D19)				Triticale Silage	8 T wet		7,400 Gal	407,000		51	90	125					
May-13	Dykehouse Corn (D19)				Corn silage	20		7,729 Gal	131,400		114	91	163					
May-13	Dykehouse Corn (D19)				Corn silage			6,935 Gal	277,400		105	96	145					
2013 Totals	Dykhouse Front (D17A)	18	75	150	Alfalfa topdress	7	6.5 Tons			18	5	11	36	0	0	23	11	5
Jun-13	Dykhouse Front (D17A)				Alfalfa topdress			6,607 Gal	118,980		3	6	20					
Jul-13	Dykhouse Front (D17A)				Alfalfa topdress			5,160 Gal	92,710		2	5	16					
2013 Totals	Dykhouse front (D17B)	20	47	94	Alfalfa topdress	7	6.5 Tons			22	5	11	36	0	0	27	11	5
Jun-13	Dykhouse front (D17B)				Alfalfa topdress			6,607 Gal	132,130		3	6	20					
Jul-13	Dykhouse front (D17B)				Alfalfa topdress			5,160 Gal	102,930		2	5	16					
Oct-12	Dykhouse NW (D16)	18	47.5	95	Corn silage	20	17 Tons	9,250 Gal	166,500	0	40	35	66	112	0	152	35	15
Oct-12	Dykhouse West (D14)	25	51.5	103	Corn silage	20	18 Tons	8,750 Gal	218,750	8	111	98	172	114	0	233	98	43
Oct-12	Dykhouse West (D15)	20	54.5	109	Corn silage	20	18 Tons	8,750 Gal	175,000	2	111	98	172	114	0	227	98	43
2013 Totals	Edealls n of Dr (ED21A)	22	61.5	123	Triticale/Corn silage	8T / 20T	17.5 Tons			0	66	59	109	239	0	305	59	26
Sep-12	Edealls n of Dr (ED21A)				Triticale Silage			8,320 Gal	183,040		36	32	56					
May-13	Edealls n of Dr (ED21A)				Corn silage			6,976 Gal	153,360		30	27	50					
2013 Totals	Edealls N of Dr (ED21B)	23	66	132	Triticale/Corn silage	8T / 20T	17.5 Tons			0	66	59	109	239	0	305	59	26
Sep-12	Edealls N of Dr (ED21B)				Triticale Silage			8,320 Gal	191,360		36	32	59					
May-13	Edealls N of Dr (ED21B)				Corn silage			6,976 Gal	160,600		30	27	50					
Oct-12	Edealls s of Dr (ED21C)	20	74.5	149	Corn silage	20	16 Tons	9,250 Gal	185,000	21	60	109	195	114	0	195	109	46
2013 Totals	Edwards 42 A (E42A)	23	50	100	Alfalfa topdress	6 tons	5 Tons			44	7	15	50	0	0	51	15	7
Sep-12	Edwards 42 A (E42A)				Alfalfa topdress			4,507 Gal	103,661		2	4	14					
Jun-13	Edwards 42 A (E42A)				Alfalfa topdress			6,607 Gal	151,840		3	6	20					
Jul-13	Edwards 42 A (E42A)				Alfalfa topdress			5,160 Gal	32,120		2	5	16					
Aug-13	Edwards 42 A (E42A)				Alfalfa topdress			5,165 Gal	118,260		2	5	16					
2013 Totals	Edwards 42 B (E42B)	22	17.75	35.5	Alfalfa topdress	6 tons	5 Tons			44	9	20	66	0	0	53	20	9
Sep-12	Edwards 42 B (E42B)				Alfalfa topdress			4,507 Gal	99,154		2	4	14					
Jun-13	Edwards 42 B (E42B)				Alfalfa topdress			6,607 Gal	145,270		3	6	20					
Jul-13	Edwards 42 B (E42B)				Alfalfa topdress			5,160 Gal	113,880		2	5	16					
Aug-13	Edwards 42 B (E42B)				Alfalfa topdress			5,165 Gal	113,150		2	5	16					
Oct-12	Edwards N (E41)	17	17	34	Corn silage	20	16 Tons	8,500 Gal	144,500	2	55	100	179	149	0	206	100	44
Sep-12	Home 4 (H4A)	18	86	172	Triticale/Corn silage	8T / 20T	7 & 17.5Tons	8,500 Gal	153,000	18	37	32	60	122	0	177	32	14
Sep-12	Home 4 (H4B)	19	108.5	217	Triticale/Corn silage	8T / 20T	7 & 17.5Tons	8,500 Gal	161,500	17	37	32	60	122	0	176	32	14
2013 Totals	Home 4 (H4C)	16	83	166	Alfalfa topdress	7 Tons	6 Tons			16	128	152	301	0	0	142	152	66
Jun-13	Home 4 (H4C)				Alfalfa topdress			46,800 Gal	851,760		5	19	56					
Jun-13	Home 4 (H4C)				Alfalfa topdress			7,497 Gal	116,800		114	104	157					
Jul-13	Home 4 (H4C)				Alfalfa topdress			33,409 Gal	528,980		3	13	40					
Aug-13	Home 4 (H4C)				Alfalfa topdress			40,363 Gal	652,880		4	16	48					

Walnutdale Dairy 2014 Manure Application Plan Summary

Month-Year	Field	Acres	Soil Test (P) PPM	Soil Test (P) Lbs/Ac	Target Crop	2013 Yield Goal Corn Silage Tons are wet	2013 Yields Achieved Wet Tons/acre	Rate/Acre	Total Amount Applied Gallons	Nitrogen Credit (Lbs/A)	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)	Comm. Fert N (Lbs/A)	Comm. Fert. P_2O_5 (Lbs/A)	Total N (Lbs/A)	Total P_2O_5 (Lbs/A)	Total P (Lbs/A)
Apr-13	R142nd & 9th (R1142)	19	58	116	Corn grain	150 bu	145	7,300 Gal	138,700	4	12	7	23	150	0	166	7	3
2013 Totals	Sivak (JS53A)	25	55	110	Alfalfa/Corn Silage	2 & 20 tons	3 & 19 Tons			24	6	12	44	90	0	120	12	5
Nov-12	Sivak (JS53A)				Alfalfa 1st Cutting			3,640 Gal	91,000		1	3	11					
Dec-12	Sivak (JS53A)				Alfalfa 1st Cutting			3,826 Gal	95,650		2	3	12					
Apr-13	Sivak (JS53A)				Corn silage			6,935 Gal	173,375		3	6	21					
2013 Totals	Sivak (JS53B)	20	43	86	Alfalfa/Corn Silage	2 & 20 tons	3 & 19 Tons			75	6	12	44	90	0	171	12	5
Nov-12	Sivak (JS53B)				Alfalfa 1st Cutting			3,640 Gal	72,800		1	3	11					
Dec-12	Sivak (JS53B)				Alfalfa 1st Cutting			3,826 Gal	76,520		2	3	12					
Apr-13	Sivak (JS53B)				Corn silage			6,935 Gal	138,700		3	6	21					
2013 Totals	Sivak (JS53C)	18	97	194	Alfalfa/Corn Silage	2 & 20 tons	3 & 19 Tons			75	6	12	44	90	0	171	12	5
Nov-12	Sivak (JS53C)				Alfalfa 1st Cutting			3,640 Gal	65,520		1	3	11					
Dec-12	Sivak (JS53C)				Alfalfa 1st Cutting			3,826 Gal	68,868		2	3	12					
Apr-13	Sivak (JS53C)				Corn silage			6,935 Gal	124,137		3	6	21					
2013 Totals	Sivak (JS53D)	18	77	154	Alfalfa/Corn Silage	2 & 20 tons	3 & 19 Tons			75	6	12	44	90	0	171	12	5
Nov-12	Sivak (JS53D)				Alfalfa 1st Cutting			3,640 Gal	65,520		1	3	11					
Dec-12	Sivak (JS53D)				Alfalfa 1st Cutting			3,826 Gal	68,868		2	3	12					
Apr-13	Sivak (JS53D)				Corn silage			6,935 Gal	124,137		3	6	21					
2013 Totals	Sivak (JS53E)	9	61	122	Alfalfa/Corn Silage	2 & 20 tons	3 & 19 Tons			75	6	12	44	90	0	171	12	5
Nov-12	Sivak (JS53E)				Alfalfa 1st Cutting			3,640 Gal	32,760		1	3	11					
Dec-12	Sivak (JS53E)				Alfalfa 1st Cutting			3,826 Gal	34,434		2	3	12					
Apr-13	Sivak (JS53E)				Corn silage			6,935 Gal	61,722		3	6	21					
Sep-12	Thompson (Thomp)	25	125.5	251	Triticale/Corn silage	8 & 17 Tons	6 & 4 Tons	10,656 Gal	266,400	0	46	40	76	243	0	289	40	17
2013 Totals	United Bank N (UB37A)	22	30.5	61	Wheat/Alfalfa Seeding	75bu & 3T	60bu & 2T			4	134	128	230	96	0	234	128	56
Dec-12	United Bank N (UB37A)				Wheat			8,350 Gal	183,700		123	99	176					
Jul-13	United Bank N (UB37A)				Alfalfa seeding			7,632 Gal	167,900		11	29	54					
2013 Totals	United Bank S (UB37B)	22	32	64	Wheat/Alfalfa Seeding	75bu & 3T	60bu & 2T			4	100	130	195	96	0	200	130	57
Dec-12	United Bank S (UB37B)				Wheat			8,350 Gal	183,700		69	101	141					
Jul-13	United Bank S (UB37B)				Alfalfa seeding			7,632 Gal	167,900		11	29	54					
Jun-13	Wingers (W22A)	20	76	152	Corn silage	20 Tons	18 Tons	3,600 Gal	34,800	20	53	42	76	178	0	251	42	18
Jun-13	Wingers (W22B)	20	76	152	Corn silage	20 Tons	18 Tons	3,600 Gal	34,800	30	46	40	71	178	0	254	40	17
Oct-12	X-Bank E (xbe)	18	16	32	Corn silage	20 Tons	19.5 Tons	9,250 Gal	166,500	0	40	35	66	144	0	184	35	15
Oct-12	X-Bank W (xbw)	18	28	56	Corn silage	20 Tons	19.5 Tons	9,250 Gal	166,500	0	40	35	66	144	0	184	35	15

Walnutdale Dairy 2012 Summary of Crop & Nutrient Balance

			Soil Test (P)					Wet Tons/acre	Manure Data									
Field Name	Field ID	Acres	PPM	lbs/acre	2012 Crops	Yield Goal (/Acre)	Yields Achieved	Yield Units	Rate Gal/acre	Month - Year	Manure N (lb)	Manure P (lb)	Credits N (lb)	Fertilizer N (lb)	Fertilizer P (lb)	Total Crop N (lb)	Total P2O5 (lb)	Total P (lb)
Chesebro SE	C68	24	11	22	1st Cutting - Silage	3 & 18 Tons	2&14	tons	0	0	0	0	6	92	0	98	0	0
Chesebro S back	C69	7	12.5	25	Alfalfa topdress	6.0 Ton	7.5	tons	0	0	0	0	8	2	1	10	2	1
Chesebro 70	C70	25	11	22	Alfalfa topdress	5.0 Ton	9	tons	0	0	0	0	0	2	1	2	2	1
Chesebro 71s	C71-s	7.6	5	10	Corn grain	140.0 Bu	95	bu	0	0	0	0	0	30	0	30	0	0
Chesebro 9ac	C72	7	15	30	Alfalfa topdress	5.0 Ton	10.2	tons	0	0	0	0	0	2	1	2	2	1
Nowak Bradley	1&2	38	16	32	1st Cutting - Silage	3 & 17 ton	2 & 13	tons	11360	May-'12	31	30	5	30	0	66	69	30
Nowak Bradley	5-Mar	56	21	42	1st Cutting - Silage	3 & 17 ton	2 & 13	tons	11360	May-'12	31	30	3	30	0	64	69	30
Nowak Bradley	6&7	28	20.5	41	1st Cutting - Silage	3 & 17 ton	2 & 13	tons	11360	May-'12	31	30	7	30	0	68	69	30
Bradt NW	BNW	3	35.5	71	Alfalfa topdress	6.0 Ton	5	tons	11461	Apr-'12	102	43	0	2	1	104	101	44
Bradt W	B73W	14	47	94	Alfalfa topdress	6.0 Ton	5	tons	16086	Apr-'12 & Jul-'12	120	61	0	2	1	122	141	62
Bradt E	B73E	18	19.5	39	Alfalfa topdress	6.0 Ton	5	tons	16086	Apr-'12 & Jul-'12	120	61	0	2	1	122	141	62
4th st	4th	5	25	50	Alfalfa topdress	6.0 Ton	8	tons	0	0	0	0	0	2	1	2	2	1
Thompson	Thomp	25	141	282	Corn silage	20.0 Ton	10	tons	0	0	0	0	5	122	0	127	0	0
Karnyszek	Kam	28	16.5	33	Wheat	75.0 Bu	49	bu	0	0	0	0	9	66	0	75	0	0
Home Small	Home4	4	113	226	Corn silage	20.0 Ton	10	tons	0	0	0	0	0	92	0	92	0	0
Rodgers 4th	R-4th	22	24	48	Alfalfa topdress	6.0 Ton	5	tons	0	0	0	0	0	2	1	2	2	1
Peterman	Pete	14	4.5	9	Corn silage	17.0 Ton	13	tons	11461	Apr-'12	102	43	5	151	17	258	137	60
Levendoski	Lev	45	26.5	53	Corn silage	20.0 Ton	16	tons	0	0	0	0	0	92	0	92	0	0
Division East	Div-e	14	12	24	Corn silage	17.0 Ton	11	tons	0	0	0	0	0	150	16	150	36	16
Divsion West	Div-w	10	13	26	Corn silage	17.0 Ton	11	tons	0	0	0	0	0	150	16	150	36	16
DeWitt	DW	41	32	64	Wheat - Wheat & Peas	75 bu & 1 T	57 & 4	bu & Tons	12	0	0	0	0	66	0	66	0	0
Ralphs pasture	Pas-N	8	26	52	Pasture, int. grazing	3.0 Ton	2	tons	7.5T	May-Sept	12	8	0	0	0	12	18	8
Catch basin pas	Pas-S	4	68	136	Pasture, int. grazing	3.0 Ton	2	tons	10T	May-Sept	18	10	8	0	0	26	24	10
Zandbergen N	ZandN	32	24.5	49	Corn silage	17.0 Ton	12	tons	0	0	0	0	0	134	22	134	51	22
Zandbergen S	ZandS	34	26	52	Corn silage	17.0 Ton	12	tons	0	0	0	0	0	134	22	134	51	22
MapleView	NadE	28	79.5	159	Corn silage	21.0 Ton	18	tons	0	0	0	0	19	141	0	160	0	0
R142nd & 9th	R1142	19	58	116	Soybean	50.0 Bu			8178	Nov-'11	94	31	0	0	0	94	70	31
R Leroy N-N	R2LNN	21	124	248	Soybean	50.0 Bu			7230	Nov-'11	64	27	0	0	0	64	62	27
R Leroy N-S	R2LNS	21	111	222	Soybean	50.0 Bu			7230	Nov-'11	64	27	0	0	0	64	62	27
R Leroy S-NW	R3SNW	24	90	180	Soybean	50.0 Bu			6300	Dec-'11	72	24	0	0	0	72	54	24
R Leroy S-NE	R3SNE	20	149	298	Soybean	22.0 Bu			6300	Dec-'11	72	24	0	0	0	72	54	24
R Leroy S-S	R3SS	30	140	280	Soybean	50.0 Bu			6300	Dec-'11	72	24	0	0	0	72	54	24
R Evert 9th N	R4E9N	20	187	374	Soybean	50.0 Bu			7400	Nov-'11	66	28	0	0	0	66	64	28
R Evert 9th M	R4E9M	20	255	510	Soybean	50.0 Bu			7400	Nov-'11	66	28	0	0	0	66	64	28
R Evert 9th S	R4E9S	20	101	202	Soybean	50.0 Bu			7400	Nov-'11	66	28	0	0	0	66	64	28
R LR 137th W	R5W	22	126	252	Soybean	50.0 Bu			7080	Nov-'11	63	27	0	0	0	63	61	27
R LR 137th E	R5E	24	87	174	Soybean	50.0 Bu			7080	Nov-'11	63	27	0	0	0	63	61	27
R Bobs Front	R8BF	13	210	420	Soybean	50.0 Bu			8750	Nov-'11	78	33	143	0	0	221	75	33
R Bobs Back	R7BH	19	63	126	Soybean	50.0 Bu			15571	Nov-'11 & Apr-'12	125	69	0	0	0	125	158	69
R Bobs SE	R8BSE	15	34	68	Soybean	50.0 Bu			8750	Nov-'11	78	33	0	0	0	78	75	33
R Bobs South	R9BS	9	50	100	Soybean	50.0 Bu			8750	Nov-'11	78	33	0	0	0	78	75	33
O Blaine NW	OBNW	14	6	12	Corn silage	18.0 Ton	16	tons	7457	Apr-'12	66	28	0	152	18	218	106	46
O Blaine NE	OBNE	13	13	26	Corn silage	18.0 Ton	16	tons	7457	Apr-'12	66	28	0	152	18	218	106	46
O Blaine SW	OBSW	15	5	10	Corn silage	18.0 Ton	16	tons	7457	Apr-'12	66	28	0	152	18	218	106	46
O Blaine SM	OBSM	8	2	4	Corn silage	18.0 Ton	16	tons	7457	Apr-'12	66	28	0	152	18	218	106	46
O Blaine SE	OBSE	8	7	14	Corn silage	18.0 Ton	16	tons	7457	Apr-'12	66	28	0	152	18	218	106	46
Nobel East	N-E	46.51	17.5	35	Corn silage	20.0 Ton	18	tons	8228	Apr-'12	73	31	0	154	0	227	71	31
Nobel West	N-W	54.69	17.5	35	Corn silage	20.0 Ton	16	tons	8047	Apr-'12	56	42	0	92	0	148	97	42
Zandberg - shop	ZBS	26	27	54	Corn silage	20.0 Ton	12	tons	0	0	0	0	0	120	18	120	42	18
X-Bank E	xbe	18	16	32	Corn silage	20.0 Ton	15	tons	0	0	0	0	0	98	17	98	39	17
X-Bank W	xbw	18	28	56	Corn silage	20.0 Ton	15	tons	0	0	0	0	0	98	17	98	39	17
Indus. Drv	Indrv	12	67	134	Corn silage	17.0 Ton	13	tons	0	0	0	0	0	92	0	92	0	0

Walnutdale Dairy 2012 Summary of Crop & Nutrient Balance

			Soil Test (P)			Wet Tons/acre			Manure Data									
Field Name	Field ID	Acres	PPM	lbs/acre	2012 Crops	Yield Goal (/Acre)	Yields Achieved	Yield Units	Rate Gal/acre	Month - Year	Manure N (lb)	Manure P (lb)	Credits N (lb)	Fertilizer N (lb)	Fertilizer P (lb)	Total Crop N (lb)	Total P2O5 (lb)	Total P (lb)
Home 1	H1	25	121	242	Trifical & Silage Corn	9 & 20 Tons	8 & 18	tons	16500	Dec-'11	5	2	0	98	0	103	5	2
Home 2	H2	17	133	266	Trifical & Silage Corn	9 & 20 Tons	8 & 18	tons	0	0	0	0	9	98	0	107	0	0
Home 3	H3	24	124	248	Corn silage	20.0 Ton	13	tons	16500	Dec-'11	5	2	0	92	0	97	5	2
Home 4	H4A	18	86	172	Corn silage	20.0 Ton	13	tons	16500	Dec-'11	5	2	42	94	1	141	7	3
Home 4	H4B	19	108.5	217	Corn silage	20.0 Ton	13	tons	16500	Dec-'11	5	2	43	94	1	142	7	3
Home 4	H4C	16	83	166	Alfalfa topdress	7.0 Ton	11	tons	70000	Mar-Jun-'12	58	65	17	2	1	77	152	66
Home 4	H4D	17	82.5	165	Alfalfa topdress	7.0 Ton	11	tons	70000	Mar-Jun-'12	58	65	17	2	1	77	152	66
Home 5	H5	21	23.5	47	Corn silage	21.0 Ton	16	tons	25,750 & 31T	Sept-'11 to May-'12	441	139	36	92	0	569	318	139
Home 6	H6	22	26	52	Corn silage	21.0 Ton	16	tons	25,750 & 31T	Sept-'11 to May-'12	441	139	33	92	0	566	318	139
Home 7	H7	15	133	266	Corn silage	21.0 Ton	16	tons	31 ton	Dec-'11	434	135	36	92	0	562	310	135
Home 8	H8	14	128	256	Alfalfa topdress	6.0 Ton	9.5	tons	0	0	0	0	51	2	1	53	2	1
Kens 9	H9	30	169	338	Trifical & Silage Corn	9 & 20 Tons	7 & 18	tons	0	0	0	0	16	82	0	98	0	0
Maynards	M13	23	45	90	1st Cutting - Silage	3 & 17 ton	3 & 12	tons	9652	May-'12	19	51	7	60	0	86	117	51
Dykhouse West	D14	25	51.5	103	Trifical & Silage Corn	9 & 20 Tons	8.7 & 11	tons	3125	Oct-'11	27	12	0	98	0	125	28	12
Dykhouse West	D15	20	54.5	109	Trifical & Silage Corn	9 & 20 Tons	8.7 & 11	tons	3125	Oct-'11	27	12	0	98	0	125	28	12
Dykhouse NW	D16	18	13	26	Corn silage	20.0 Ton	14	tons	0	0	0	0	5	104	0	109	0	0
Dykhouse Front	D17A	18	69	138	Alfalfa topdress	6.0 Ton	11.8	tons	7790	Jun-'12	3	2	51	2	1	56	7	3
Dykhouse front	D17B	20	69	138	Alfalfa topdress	6.0 Ton	11.8	tons	7790	Jun-'12	3	2	60	2	1	65	7	3
Dykehouse Back	D18	18	13	26	Corn silage	20.0 Ton	14	tons	0	0	0	0	9	104	0	113	0	0
Dykehouse Corn	D19	56.63	100.5	201	Corn silage	20.0 Ton	14	tons	43360	Sept-Dec-'11	84	46	48	92	0	224	106	46
Edsalls back	ED20	19	42	84	Corn silage	20.0 Ton	14	tons	4000	Sept-'11	39	22	13	92	0	144	50	22
Edsalls n of Dr	ED21A	22	61.5	123	Corn silage	20.0 Ton	15	tons	2960	Sept-'11	4	1	0	92	0	96	2	1
Edsalls N of Dr	ED21B	23	66	132	Corn silage	20.0 Ton	15	tons	2960	Sept-'11	4	1	2	92	0	98	2	1
Edsalls s of Dr	ED21C	20	10	20	Corn silage	20.0 Ton	15	tons	0	0	0	0	1	62	1	63	2	1
Wingers	W22A	20	76	152	Trifical & Silage Corn	9 & 20 Tons	7.5 & 16	tons	11	Nov-'11 & Apr-'12	185	66	81	98	0	364	152	66
Wingers	W22B	20	76	152	Trifical & Silage Corn	9 & 20 Tons	7.5 & 16	tons	19285	Nov-'11 & Apr-'12	185	66	81	98	0	364	152	66
King W north	K26A	8	17	34	Corn silage	17.0 Ton	12	tons	0	0	0	0	0	150	16	150	36	16
King W south	K26B	3	9	18	Corn silage	17.0 Ton	12	tons	0	0	0	0	0	150	16	150	36	16
Martins 146th	LM32	14	14.5	29	Corn silage	17.0 Ton	11	tons	0	0	0	0	0	122	0	122	0	0
Justine Stora	JS33	23	33	66	Corn silage	20.0 Ton	13	tons	5380	Nov-'11	9	2	0	122	0	131	4	2
United Bank N	UB37A	22	30.5	61	Corn silage	20.0 Ton	10	tons	7065	Nov-'11	81	27	0	104	22	185	112	49
United Bank S	UB37B	22	32	64	Corn silage	20.0 Ton	10	tons	0	0	0	0	0	104	22	104	51	22
Wingers 14th	W38A	20	57	114	Corn silage	20.0 Ton	12	tons	4440	Mar-'12	35	24	3	92	0	130	56	24
Wingers 14th	W38B	20	57	114	Corn silage	20.0 Ton	12	tons	4440	Mar-'12	35	24	0	92	0	127	56	24
Nowaks 134th	N40A	18	19.5	39	Alfalfa topdress	6.0 Ton	8	tons	15000	Nov-'11 & Apr-'12	62	47	0	2	1	64	110	48
Nowaks 134th	N40B	15	19.5	39	Alfalfa topdress	6.0 Ton	8	tons	15000	Nov-'11 & Sep-'12	6	4	0	2	1	8	12	5
Nowaks 135th	N40C	4	46	92	Corn silage	17.0 Ton	10	tons	0	0	0	0	0	153	17	153	40	17
Edwards N	E41	17	17.5	35	Corn silage	20.0 Ton	12	tons	0	0	0	0	7	102	22	109	51	22
Edwards 42	E42	45	35	70	Alfalfa topdress	6.0 Ton	8	tons	24,530	Apr-'12 to Sept-'12	58	63	8	2	1	68	147	64
Thomas 43	T43	13	106	212	Corn grain	140.0 Bu	8	tons	0	0	0	0	0	151	17	151	38	17
Thomas 44	T44	11	39	78	Corn grain	140.0 Bu	8	tons	0	0	0	0	0	151	17	151	38	17
Thomas 45	T45	12	101	202	Corn grain	140.0 Bu	8	tons	0	0	0	0	0	151	17	151	38	17
Jacksons NW	J48	15	65.5	131	Corn silage	18.0 Ton	5	tons	21,800	Oct-'11 & Apr-'12	67	56	28	92	0	187	129	56
Jacksons NW2	J49	14	107.5	215	Wheat - Wheat & Peas	9 & 18 Tons	24 & 2	bu & Tons	21800	Oct-'11 & Apr-'12	140	56	0	66	0	206	129	56
Jacksons W	J50	28	86.5	173	Corn silage	18.0 Ton	5	tons	14800	Aug-'11	133	69	9	92	0	234	157	69
Jacksons M	J51	68	125	250	Corn silage	18.0 Ton	4	tons	12650	Oct-'11 & Mar-'12	59	41	6	92	0	157	94	41
Jacksons E	J52	38	60.5	121	Wheat - Wheat & Peas	60 & 3 T	39 & 2	bu & Tons	0	0	0	0	4	69	0	73	1	0
Sivak	JS53	90	66	132	Alfalfa topdress	7.0 Ton	8	tons	15735	Mar-'12 to Jul-'12	13	28	9	1	0	23	66	29
Chesebro 40N	C65N	30	15.5	31	1st Cutting - Silage	3 & 18 Tons	2.5 & 18	tons	0	0	0	0	21	92	0	113	0	0
Chesebro 65S	C65S	6	43	86	Corn silage	17.0 Ton	19	tons	0	0	0	0	12	104	22	116	51	22
Chesebro SW	C66	20	22.5	45	Alfalfa topdress	6.0 Ton	7.5	tons	0	0	0	0	8	2	1	10	2	1
Chesebro SM	C67	17	11.5	23	Corn silage	20.0 Ton	15	tons	0	0	0	0	0	104	22	104	51	22

Walnutdale Dairy 2012 Summary of Crop & Nutrient Balance

			Soil Test (P)					Wet Tons/acre	Manure Data									
Field Name	Field ID	Acres	PPM	lbs/acre	2012 Crops	Yield Goal (/Acre)	Yields Achieved	Yield Units	Rate Gal/acre	Month - Year	Manure N (lb)	Manure P (lb)	Credits N (lb)	Fertilizer N (lb)	Fertilizer P (lb)	Total Crop N (lb)	Total P2O5 (lb)	Total P (lb)
Comerce Drv,	ComD	8.5	9	18	Corn silage	17.0 Ton	12	tons	0	0	0	0	0	92	0	92	0	0

Walnutdale Dairy 2012 Manure Application Summary

17,852,973 Gallons

Month-Year	Field	Target Crop	Manure Source	Equipment	Days to Incorp	Rate/Acre	Rate Basis	Loads Sheet	Acres Cov	Total Amount Applied	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)
Mar-12	Home 4 (H4C)	Alfalfa topdress	Pit 3&4	Balzer Surface	0	6,278 Gal	Custom	13.8 Lds	16	100,448	43	76	106
Mar-12	Home 4 (H4D)	Alfalfa topdress	Pit 3&4	Balzer Surface	0	6,278 Gal	Custom	14.6 Lds	17	106,740	43	76	106
Mar-12	Wingers 14th (W38A)	Corn silage	Pit 7&8	Balzer Surface	0	4,440 Gal	Custom	12.2 Lds	20	88,800	35	56	75
Mar-12	Wingers 14th (W38B)	Corn silage	Pit 7&8	Balzer Surface	0	4,440 Gal	Custom	12.2 Lds	20	88,800	35	56	75
Mar-12	Jacksons M (J51)	Corn silage	Pit 7&8	Balzer Surface	0	7,400 Gal	Custom	23.3 Lds	23	170,200	58	93	125
Mar-12	Jacksons M (J51)	Corn silage	Pit 3&4	Balzer Surface	0	7,400 Gal	Custom	28.4 Lds	28	207,200	51	90	125
Mar-12	Sivak (JS53)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	5,600 Gal	Custom	69 Lds	90	504,000	2	4	12
Apr-12	Wingers (W22B)	Corn silage	Pit 6	Balzer Surface	0	8,000 Gal	Custom	9.9 Lds	9	72,000	46	55	68
Apr-12	Wingers (W22B)	Corn silage	Pit 3&4	Balzer Surface	0	8,000 Gal	Custom	7.9 Lds	7.2	57,600	55	97	135
Apr-12	Nowaks 134th (N40A)	Alfalfa topdress	Pit 3&4	Balzer Surface	0	8,550 Gal	Custom	18.7 Lds	16	136,800	59	103	144
Apr-12	Edwards 42 (E42)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	8,228 Gal	Custom	15.8 Lds	14	115,200	31	71	134
Apr-12	Jacksons NW (J48)	Corn silage	Lagoon - 8 East	Balzer Surface	N/A	14,400 Gal	Custom	27.6 Lds	14	201,600	55	124	235
Apr-12	Jacksons NW2 (J49)	Wheat	Lagoon - 8 East	Balzer Surface	0	14,400 Gal	Custom	27.6 Lds	14	201,600	128	124	235
Apr-12	Bradt NW (BNW)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	0	11,461 Gal	Custom	4.7 Lds	3	34,383	102	99	187
Apr-12	Bradt W (B73W)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	0	11,461 Gal	Custom	22 Lds	14	160,454	102	99	187
Apr-12	Bradt E (B73E)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	0	11,461 Gal	Custom	28.3 Lds	18	206,298	102	99	187
Apr-12	Peterman (Pete)	Corn silage	Lagoon - 8 East	Balzer Surface	0	11,461 Gal	Custom	22 Lds	14	160,454	102	99	187
Apr-12	R Bobs Back (R7BH)	Soybean	Pit 3&4	Balzer Surface	0	6,821 Gal	Custom	17.8 Lds	19	129,600	47	83	115
Apr-12	O Blaine NW (OBNW)	Corn silage	Lagoon - 8 East	Balzer Surface	0	7,457 Gal	Custom	14.3 Lds	14	104,400	66	64	122
Apr-12	O Blaine NE (OBNE)	Corn silage	Lagoon - 8 East	Balzer Surface	0	7,457 Gal	Custom	13.3 Lds	13	96,941	66	64	122
Apr-12	O Blaine SW (OBSW)	Corn silage	Lagoon - 8 East	Balzer Surface	0	7,457 Gal	Custom	15.3 Lds	15	111,855	66	64	122

Walnutdale Dairy 2012 Manure Application Summary

17,852,973 Gallons

Month Year	Field	Target Crop	Manure Source	Equipment	Days to Incorp	Rate/Acre	Rate Basis	Loads Spread	Acres Cov	Total Amount Applied	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
Apr-12	O Blaine SM (OBSM)	Corn silage	Lagoon - 8 East	Balzer Surface	0	7,457 Gal	Custom	8.2 Lds	8	59,656	66	64	122
Apr-12	O Blaine SE (OBSE)	Corn silage	Lagoon - 8 East	Balzer Surface	0	7,457 Gal	Custom	8.2 Lds	8	59,656	66	64	122
Apr-12	Nobel East (N-E)	Corn silage	Lagoon - 8 East	Balzer Surface	0	8,228 Gal	Custom	15.8 Lds	14	115,200	73	71	134
Apr-12	Nobel West (N-W)	Corn silage	Pit 3&4	Balzer Surface	0	8,047 Gal	Custom	18.7 Lds	17	136,800	56	97	136
May-12	Home 4 (H4C)	Alfalfa topdress	Catch Basin	Irrigation	N/A	12,941 Gal	Custom		16	207,056	1	4	27
May-12	Home 4 (H4D)	Alfalfa topdress	Catch Basin	Irrigation	N/A	12,941 Gal	Custom		17	219,997	1	4	27
May-12	Home 5 (H5)	Corn silage	Catch Basin	Irrigation	N/A	6,423 Gal	Custom		21	134,883	1	2	13
May-12	Home 6 (H6)	Corn silage	Catch Basin	Irrigation	N/A	6,423 Gal	Custom		22	141,306	1	2	13
May-12	Maynards (M13)	Alfalfa topdress	Pit 3&4	Balzer Surface	N/A	9,652 Gal	Custom	30.4 Lds	23	221,996	19	117	163
May-12	Nowak Bradley (1&2)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	3,560 Gal	Custom	18.5 Lds	38	135,280	1	2	7
May-12	Nowak Bradley (1&2)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	7,800 Gal	Custom	40.6 Lds	38	296,400	30	67	127
May-12	Nowak Bradley (3-5)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	7,800 Gal	Custom	59.8 Lds	56	436,800	30	67	127
May-12	Nowak Bradley (3-5)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	3,561 Gal	Custom	27.3 Lds	56	199,416	1	2	7
May-12	Nowak Bradley (6&7)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	7,800 Gal	Custom	29.9 Lds	28	218,400	30	67	127
May-12	Nowak Bradley (6&7)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	3,561 Gal	Custom	13.7 Lds	28	99,708	1	2	7
Jun-12			Pit 7&8		N/A	Gal				260,610			
Jun-12	Home 4 (H4C)	Alfalfa topdress	Catch Basin	Irrigation	N/A	53,373 Gal	Custom		16	853,968	5	16	112
Jun-12	Home 4 (H4D)	Alfalfa topdress	Catch Basin	Irrigation	N/A	53,373 Gal	Custom		17	907,341	5	16	112
Jun-12	Dykhouse Front (D17A)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	7,790 Gal	Custom	19.2 Lds	18	140,220	3	5	16
Jun-12	Dykhouse front (D17B)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	7,790 Gal	Custom	21.3 Lds	20	155,800	3	5	16
Jun-12	Edwards 42 (E42)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	6,533 Gal	Custom	40.3 Lds	45	294,000	3	5	14
Jul-12			Slurry Store #5		N/A	Gal				210,240			

Walnutdale Dairy 2012 Manure Application Summary

17,852,973 Gallons

Month-Year	Field	Target Crop	Manure Source	Equipment	Days to Incorp	Rate/Acre	Rate Basis	Loads Spread	Acres Cov	Total Amount Applied	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
Jul-12	Home 4 (H4C)	Alfalfa topdress	Pit 3&4	Balzer Surface	N/A	4,484 Gal	Custom	9.8 Lds	16	71,744	9	54	76
Jul-12	Home 4 (H4D)	Alfalfa topdress	Pit 3&4	Balzer Surface	N/A	4,484 Gal	Custom	10.4 Lds	17	76,228	9	54	76
Jul-12	Edwards 42 (E42)	Alfalfa topdress	Pit 7&8	Balzer Surface	N/A	5,262 Gal	Custom	32.4 Lds	45	236,800	22	66	89
Jul-12	Jacksons E (J52)	Alfalfa seeding	Lagoon - 8 East	Balzer Surface	N/A	8,763 Gal	Custom	45.6 Lds	38	332,900	33	75	143
Jul-12	Sivak (JS53)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	5,413 Gal	Custom	66.7 Lds	90	487,200	2	4	11
Jul-12	Sivak (JS53)	Alfalfa topdress	Pit 3&4	Balzer Surface	N/A	4,722 Gal	Custom	58.2 Lds	90	425,000	9	57	80
Jul-12	Bradt W (B73W)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	4,625 Gal	Custom	8.9 Lds	14	64,750	18	40	75
Jul-12	Bradt E (B73E)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	4,625 Gal	Custom	11.4 Lds	18	83,250	18	40	75
Jul-12	Kamyszek (Kam)	Alfalfa seeding	Pit 7&8	Balzer Surface	0	9,778 Gal	Custom	37.5 Lds	28	273,784	76	123	165
Jul-12	DeWitt (DW)	Corn silage	Lagoon - 8 East	Balzer Surface	N/A	9,205 Gal	Custom	51.7 Lds	41	377,400	35	79	150
Sep-12	Home 4 (H4A)	Rye for cover	Lagoon - 8 East	Balzer Surface	0	8,500 Gal	Custom	21 Lds	18	153,000	76	73	139
Sep-12	Home 4 (H4B)	Rye for cover	Lagoon - 8 East	Balzer Surface	0	8,500 Gal	Custom	22.1 Lds	19	161,500	76	73	139
Sep-12	Dykehouse Corn (D19)	Rye for cover	Pit 3&4	Balzer Surface	0	7,400 Gal	Custom	55.8 Lds	55	407,000	51	90	125
Sep-12	Edsalls n of Dr (ED21A)	Rye for cover	Lagoon - 8 East	Balzer Surface	0	8,320 Gal	Custom	25.1 Lds	22	183,040	74	72	136
Sep-12	Edsalls N of Dr (ED21B)	Rye for cover	Lagoon - 8 East	Balzer Surface	0	8,320 Gal	Custom	26.2 Lds	23	191,360	74	72	136
Sep-12	Nowaks 134th (N40A)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	4,507 Gal	Custom	11.1 Lds	18	81,126	2	3	9
Sep-12	Nowaks 134th (N40B)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	4,507 Gal	Custom	9.3 Lds	15	67,605	2	3	9
Sep-12	Nowaks 135th (N40C)	Corn silage	Slurry Store #5	Tanker	N/A	4,507 Gal	Custom	2.5 Lds	4	18,028	2	3	9
Sep-12	Edwards 42 (E42)	Alfalfa topdress	Slurry Store #5	Tanker	N/A	4,507 Gal	Custom	27.8 Lds	45	202,815	2	3	9
Sep-12	Jacksons W (J50)	Rye for cover	Lagoon - 8 East	Balzer Surface	0	10,286 Gal	Custom	39.5 Lds	28	288,000	92	88	168
Sep-12	Thompson (Thomp)	Rye for cover	Lagoon - 8 East	Balzer Surface	0	10,656 Gal	Custom	36.5 Lds	25	266,400	95	92	174

Walnutdale Dairy 2012 Manure Application Summary

17,852,973 Gallons

Month-Year	Field	Target Crop	Manure Source	Equipment	Days to Incorp.	Rate/Acre	Rate Basis	Loads Spread or	Acres Cov	Total Amount Applied	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)
Sep-12	Peterman (Pete)	Wheat	Lagoon - 8 East	Balzer Surface	0	8,307 Gal	Custom	14.8 Lds	13	108,000	74	71	135
Sep-12	Levendoski (Lev)	Rye for cover	Lagoon - 8 East	Balzer Surface	0	8,800 Gal	Custom	54.2 Lds	45	396,000	78	76	143
Oct-12	Dykhouse West (D14)	Corn silage	Pit 6	Balzer Surface	0	8,750 Gal	Custom	30 Lds	25	218,750	50	60	74
Oct-12	Dykhouse West (D15)	Corn silage	Pit 6	Balzer Surface	0	8,750 Gal	Custom	24 Lds	20	175,000	50	60	74
Oct-12	Dykhouse NW (D16)	Corn silage	Lagoon - 8 East	Balzer Surface	0	9,250 Gal	Custom	22.8 Lds	18	166,500	82	80	151
Oct-12	Dykehouse Back (D18)	Corn silage	Lagoon - 8 East	Balzer Surface	0	9,250 Gal	Custom	22.8 Lds	18	166,500	82	80	151
Oct-12	Edsalls s of Dr (ED21C)	Corn silage	Pit 1&2	Balzer Surface	N/A	9,250 Gal	Custom	25.3 Lds	20	185,000	26	84	106
Oct-12	Justine Stora (JS33)	Corn silage	Lagoon - 8 East	Balzer Surface	N/A	9,391 Gal	Custom	29.6 Lds	23	216,000	36	81	153
Oct-12	Edwards N (E41)	Corn silage	Pit 1&2	Balzer Surface	N/A	8,500 Gal	Custom	19.8 Lds	17	144,500	24	77	98
Oct-12	Chesebro 40N (C65N)	Corn silage	Lagoon - 8 East	Balzer Surface	0	7,879 Gal	Custom	32.4 Lds	30	236,370	70	68	128
Oct-12	Chesebro 65S (C65S)	Corn silage	Lagoon - 8 East	Balzer Surface	0	7,879 Gal	Custom	6.5 Lds	6	47,274	70	68	128
Oct-12	Chesebro SM (C67)	Corn silage	Lagoon - 8 East	Balzer Surface	N/A	7,879 Gal	Custom	18.3 Lds	17	133,943	30	68	128
Oct-12	X-Bank E (xbe)	Corn silage	Lagoon - 8 East	Balzer Surface	0	9,250 Gal	Custom	22.8 Lds	18	166,500	82	80	151
Oct-12	X-Bank W (xbw)	Corn silage	Lagoon - 8 East	Balzer Surface	0	9,250 Gal	Custom	22.8 Lds	18	166,500	82	80	151
Nov-12	Home 5 (H5)	Corn silage	Lagoon - 8 East	Slinger Liquid	0	9,250 Gal	Custom	67 Lds	21	194,250	82	80	151
Nov-12	Home 6 (H6)	Corn silage	Lagoon - 8 East	Slinger Liquid	N/A	9,250 Gal	Custom	70.2 Lds	22	203,500	35	80	151
Nov-12	Home 7 (H7)	Corn silage	Lagoon - 8 East	Slinger Liquid	N/A	9,250 Gal	Custom	47.8 Lds	15	138,750	35	80	151
Nov-12	Sivak (JS53)	Legume-grass cover	Slurry Store #5	Tanker	N/A	3,640 Gal	Custom	44.9 Lds	90	327,600	1	3	8
Nov-12	MapleView (NadE)	Corn silage	Pit 6	Balzer Surface	0	8,985 Gal	Custom	34.5 Lds	28	251,600	51	62	76
Dec-12	United Bank N (UB37A)	Rye for cover	Pit 1&2	Balzer Surface	0	8,350 Gal	Custom	25.2 Lds	22	183,700	55	76	96
Dec-12	United Bank S (UB37B)	Rye for cover	Pit 3&4	Balzer Surface	0	8,350 Gal	Custom	25.2 Lds	22	183,700	58	101	141

Walnutdale Dairy 2012 Manure Application Summary

17,852,973 Gallons

Month-Year	Field	Target Crop	Manure Source	Equipment	Days to Incorp.	Rate/Acre	Rate Basis	Loads Spread/Ac	Acres Cov.	Total Amount Applied	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)
Dec-12	Sivak (JS53)	Legume-grass cover	Slurry Store #5	Tanker	N/A	3,826 Gal	Custom	47.2 Lds	90	344,400	2	3	8
Dec-12	R Evert 9th N (R4E9N)	Corn grain	Pit 1&2	Balzer Surface	N/A	8,160 Gal	Custom	22.4 Lds	20	163,200	23	74	94
Dec-12	R Evert 9th M (R4E9M)	Corn grain	Pit 1&2	Balzer Surface	0	8,160 Gal	Custom	22.4 Lds	20	163,200	54	74	94
Dec-12	R Evert 9th S (R4E9S)	Corn grain	Pit 3&4	Balzer Surface	0	8,160 Gal	Custom	22.4 Lds	20	163,200	56	99	138

Walnutdale Dairy 2011 Manure Application Summary Table

15,634,463

Month-Year	Field	Target Crop	Manure Source	Equipment	Days to Incorp.	Rate/Acre	Rate Basis	Loads, Speed or Time	Acres Cov.	Total Amount Applied	H	Avail. N (Lbs/A)	Avail. P_2O_5 (Lbs/A)	Avail. K_2O (Lbs/A)
Apr-11	Home 3 (H3)	Corn silage	Pit 7&8	Balzer Inject	N/A	5,000 Gal	Custom	7 Lds	9.8	49,000		48	63	85
Apr-11	Home 3 (H3)	Corn silage	Pit 7&8	Balzer Inject	N/A	5,000 Gal	Custom	7 Lds	9.8	49,000		48	63	85
Apr-11	Home 4 (H4A)	Corn silage	Pit 7&8	Balzer Inject	N/A	5,000 Gal	Custom	7.5 Lds	10.5	52,500		48	63	85
Apr-11	Home 4 (H4A)	Corn silage	Pit 1&2	Balzer Inject	N/A	5,000 Gal	Custom	5 Lds	7	35,000		43	46	58
Apr-11	Home 4 (H4B)	Corn silage	Pit 7&8	Balzer Inject	N/A	5,000 Gal	Custom	13 Lds	18.2	91,000		48	63	85
May-11	Catch basin pas (Pas-S)	Pasture, int. grazing	Pastures	Grazing Cattle	N/A	2.5 Tons	Custom	10 Lds	8	20			6	20
May-11	Jacksons M (JS1)	Corn silage	Pit 3&4	Balzer Inject	N/A	5,000 Gal	Custom	4.4 Lds	6.2	30,800		46	61	85
May-11	Jacksons M (JS1)	Corn silage	Pit 1&2	Balzer Inject	N/A	5,000 Gal	Custom	34.9 Lds	48.9	244,300		43	46	58
May-11	Jacksons E (JS2)	Corn silage	Pit 3&4	Balzer Inject	N/A	4,870 Gal	Custom	20.8 Lds	29.9	145,600		45	59	82
May-11	Jacksons E (JS2)	Corn silage	Pit 6	Balzer Inject	N/A	4,870 Gal	Custom	5.7 Lds	5.2	39,900		33	34	41
Jun-11	Home 4 (H4C)	Alfalfa topdress	Catch Basin	Irrigation	N/A	13,690 Gal	Custom		16	219,040		1	4	29
Jun-11	Home 4 (H4D)	Alfalfa topdress	Catch Basin	Irrigation	N/A	13,690 Gal	Custom		17	232,730		1	4	29
Jun-11	Home 5 (H5)	Corn silage	Catch Basin	Irrigation	N/A	13,690 Gal	Custom		21	287,490		1	4	29
Jun-11	Home 6 (H6)	Corn silage	Catch Basin	Irrigation	N/A	13,690 Gal	Custom		1	13,690		1	4	29
Jun-11	Home 7 (H7)	Corn silage	Catch Basin	Irrigation	N/A	13,690 Gal	Custom		15	205,350		1	4	29
Jun-11	Maynards (M13)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	6,435 Gal	Custom	20.3 Lds	23	148,190		3	5	14
Jun-11	Edwards N (E41)	Corn silage	Pit 3&4	Balzer Inject	N/A	4,355 Gal	Custom	10.6 Lds	17	74,200		41	53	74
Jun-11	Sivak (JS3)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	4,625 Gal	Custom	50 Lds	78.9	365,000		2	3	10
Jun-11	Chesebro 40N (C65N)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	8,020 Gal	Custom	33 Lds	30	240,900		30	69	131
Jun-11	Chesebro 65S (C65S)	Corn silage	Lagoon - 8 East	Balzer Surface	1	8,020 Gal	Custom	6.6 Lds	6	48,180		71	69	131
Jun-11	Chesebro 70 (C70)	Alfalfa seeding	Slurry Store #5	Balzer Surface	N/A	2,960 Gal	Custom	10.2 Lds	25.2	74,460		1	2	6
Jun-11	Catch basin pas (Pas-S)	Pasture, int. grazing	Pastures	Grazing Cattle	N/A	5 Tons	Custom	10 Lds	4	20		9	12	40
Jul-11	Home 4 (H4C)	Alfalfa topdress	Pit 7&8	Balzer Surface	N/A	4,040 Gal	Custom	8.9 Lds	16.1	64,970		17	51	68
Jul-11	Home 4 (H4D)	Alfalfa topdress	Pit 7&8	Balzer Surface	N/A	4,040 Gal	Custom	9 Lds	16.3	65,700		17	51	68
Jul-11	Maynards (M13)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	4,185 Gal	Custom	13.2 Lds	23	96,360		16	36	68
Jul-11	Dykhouse Front (D17A)	Alfalfa seeding	Pit 6	Balzer Surface	N/A	3,115 Gal	Custom	7.3 Lds	17.1	53,290		10	21	26
Jul-11	Dykhouse front (D17B)	Alfalfa seeding	Pit 7&8	Balzer Surface	N/A	3,115 Gal	Custom	7.3 Lds	17.1	53,290		13	39	53
Jul-11	Marker 139th (MR39A)	Corn silage	Pit 3&4	Balzer Inject	N/A	6,785 Gal	Custom	9.2 Lds	9.5	64,400		63	82	115

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Jul-11	Marker 139th (MR39A)	Corn silage	Pit 7&8	Balzer Inject	N/A	6,785 Gal	Custom	14.1 Lds	14.6	98,700		66	85	115
Jul-11	Marker 139th (MR39B)	Corn silage	Pit 3&4	Balzer Inject	N/A	6,785 Gal	Custom	23.3 Lds	24	163,100		63	82	115
Jul-11	Edwards 42 (E42)	Alfalfa topdress	Pit 1&2	Balzer Surface	N/A	6,730 Gal	Custom	20 Lds	21.7	146,000		19	61	77
Jul-11	Sivak (JS53)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	4,720 Gal	Custom	51 Lds	78.9	372,300		2	3	10
Jul-11	Chesebro SW (C66)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	7,400 Gal	Custom	20.3 Lds	20	148,190		3	5	16
Jul-11	Chesebro SE (C68)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	7,400 Gal	Custom	24.4 Lds	24.1	178,120		3	5	16
Jul-11	Chesebro S back (C69)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	7,400 Gal	Custom	7.1 Lds	7	51,830		3	5	16
Jul-11	Nowak Bradley (1&2)	Alfalfa topdress	Pit 1&2	Balzer Inject	N/A	4,366 Gal	Custom	23.8 Lds	38.1	166,600		38	40	50
Jul-11	Nowak Bradley (3-5)	Alfalfa topdress	Pit 3&4	Balzer Surface	N/A	4,368 Gal	Custom	33.6 Lds	56.2	245,280		9	53	74
Jul-11	Nowak Bradley (6&7)	Alfalfa topdress	Pit 6	Balzer Surface	N/A	4,368 Gal	Custom	16.8 Lds	28.1	122,640		14	30	37
Jul-11	Ralphs pasture (Pas-N)	Pasture, int. grazing	Pastures	Grazing Cattle	N/A	2.5 Tons	Custom	10 Lds	8	20		4	6	20
Aug-11	Home 4 (H4C)	Alfalfa topdress	Pit 3&4	Balzer Surface	N/A	11,215 Gal	Custom	25 Lds	16.3	182,500		22	136	190
Aug-11	Home 4 (H4D)	Alfalfa topdress	Pit 1&2	Balzer Surface	N/A	11,215 Gal	Custom	28 Lds	18.2	204,400		31	102	129
Aug-11	Marker 108th (EM28B)		Pit 3&4	Balzer Inject	N/A	8,825 Gal	Custom	17.7 Lds	14	123,900		82	107	149
Aug-11	Jacksons W (J50)	Corn silage	Pit 3&4	Balzer Inject	N/A	7,400 Gal	Custom	7.3 Lds	6.9	51,100		69	90	125
Aug-11	Jacksons W (J50)	Corn silage	Pit 1&2	Balzer Inject	N/A	7,400 Gal	Custom	22.3 Lds	21.1	156,100		64	67	85
Aug-11	Sivak (JS53)	Alfalfa topdress	Lagoon - 8 East	Balzer Surface	N/A	5,180 Gal	Custom	56 Lds	78.9	408,800		20	45	84
Aug-11	Chesebro SW (C66)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	7,722 Gal	Custom	21.2 Lds	20	154,760		3	5	16
Aug-11	Chesebro SE (C68)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	7,710 Gal	Custom	25.4 Lds	24	185,420		3	5	16
Aug-11	Chesebro S back (C69)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	7,722 Gal	Custom	7.5 Lds	7.1	54,750		3	5	16
Aug-11	Catch basin pas (Pas-S)	Pasture, int. grazing	Pastures	Grazing Cattle	N/A	5 Tons	Custom	10 Lds	4	20		9	12	40
Sep-11	Home 4 (H4C)	Alfalfa topdress	Catch Basin	Suface Dragline	1	19,330 Gal	Custom	3.4 mph	15.6	301,548		6	6	41
Sep-11	Home 4 (H4D)	Alfalfa topdress	Catch Basin	Suface Dragline	1	19,330 Gal	Custom	3.4 mph	16.5	318,945		6	6	41
Sep-11	Home 5 (H5)	Corn silage	Catch Basin	Suface Dragline	1	19,330 Gal	Custom	3.4 mph	21	405,930		6	6	41
Sep-11	Home 6 (H6)	Corn silage	Catch Basin	Suface Dragline	1	19,330 Gal	Custom	3.4 mph	22	425,260		6	6	41

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Sep-11	Dykehouse Corn (D19)	Corn silage	Catch Basin	Suface Dragline	1	19,330 Gal	Custom	3.4 mph	55	1,063,150		6	6	41
Sep-11	Marker 109th (EM29A)		Pit 3&4	Balzer Inject	N/A	8,825 Gal	Custom	17.7 Lds	14	123,900		82	107	149
Sep-11	Ralphs pasture (Pas-N)	Pasture, int. grazing	Pastures	Grazing Cattle	N/A	2.5 Tons	Custom	10 Lds	8	20		4	6	20
Oct-11	Dykhouse West (D14)	Rye for cover	Pit 1&2	Balzer Inject	N/A	3,125 Gal	Custom	11.2 Lds	25.1	78,400		27	28	36
Oct-11	Dykhouse West (D15)	Rye for cover	Pit 3&4	Balzer Inject	N/A	3,125 Gal	Custom	9 Lds	20.2	63,000		29	38	53
Oct-11	Dykehouse Corn (D19)	Corn silage	Pit 7&8	Balzer Inject	N/A	7,530 Gal	Custom	59.2 Lds	55	414,400		73	95	127
Oct-11	Jacksons NW (J48)	Corn silage	Slurry Store #5	Balzer Inject	N/A	7,400 Gal	Custom	14.8 Lds	14	103,600		12	5	16
Oct-11	Jacksons NW2 (J49)	Rye for cover	Slurry Store #5	Balzer Inject	N/A	7,400 Gal	Custom	14.8 Lds	14	103,600		12	5	16
Oct-11	Jacksons M (J51)	Corn silage	Slurry Store #5	Balzer Inject	N/A	5,250 Gal	Custom	41.3 Lds	55.1	289,100		8	4	11
Nov-11	Wingers (W22A)	Rye for cover	Lagoon - 8 East	Balzer Inject	N/A	11,285 Gal	Custom	32.3 Lds	20	226,100		130	97	184
Nov-11	Wingers (W22B)	Rye for cover	Lagoon - 8 East	Balzer Inject	N/A	11,285 Gal	Custom	32.3 Lds	20	226,100		130	97	184
Nov-11	Caledonia (C30A)		Slurry Store #5	Balzer Surface	1	7,400 Gal	Custom	16.3 Lds	16.1	118,990		9	5	16
Nov-11	Caledonia (C30B)		Slurry Store #5	Balzer Surface	1	7,400 Gal	Custom	16.3 Lds	16.1	118,990		9	5	16
Nov-11	Justine Stora (JS33)	Corn silage	Slurry Store #5	Balzer Inject	N/A	5,360 Gal	Custom	16 Lds	20.8	112,000		9	4	11
Nov-11	United Bank N (UB37A)	Corn silage	Lagoon - 8 East	Balzer Inject	N/A	7,065 Gal	Custom	22.3 Lds	22.1	156,100		81	61	115
Nov-11	Nowaks 134th (N40A)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	7,400 Gal	Custom	18 Lds	17.8	131,400		3	5	16
Nov-11	Nowaks 134th (N40B)	Alfalfa topdress	Slurry Store #5	Balzer Surface	N/A	9,890 Gal	Custom	20 Lds	14.8	146,000		4	7	21
Nov-11	R142nd & 9th (R1142)	Corn silage	Lagoon - 8 East	Balzer Inject	N/A	8,178 Gal	Custom	22.2 Lds	19	155,400	r	94	70	133
Nov-11	R Leroy N-N (R2LNN)	Corn silage	Lagoon - 8 East	Balzer Surface	1	7,230 Gal	Custom	20.8 Lds	21	151,840	r	64	62	118
Nov-11	R Leroy N-S (R2LNS)	Corn silage	Lagoon - 8 East	Balzer Surface	1	7,230 Gal	Custom	20.8 Lds	21	151,840	r	64	62	118
Nov-11	R Evert 9th N (R4E9N)	Corn silage	Lagoon - 8 East	Balzer Surface	1	7,400 Gal	Custom	20.3 Lds	20	148,190	r	66	64	121
Nov-11	R Evert 9th M (R4E9M)	Corn silage	Lagoon - 8 East	Balzer Surface	1	7,400 Gal	Custom	20.3 Lds	20	148,190	r	66	64	121
Nov-11	R Evert 9th S (R4E9S)	Corn silage	Lagoon - 8 East	Balzer Surface	1	7,400 Gal	Custom	20.3 Lds	20	148,190	r	66	64	121
Nov-11	R LR 137th W (R5W)	Corn silage	Lagoon - 8 East	Balzer Surface	1	7,080 Gal	Custom	21.4 Lds	22.1	156,220	r	63	61	115

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Nov-11	R LR 137th E (R5E)	Corn silage	Lagoon - 8 East	Balzer Surface	1	7,080 Gal	Custom	23.3 Lds	24	170,090	r	63	61	115
Nov-11	R Bobs Front (R8BF)	Corn silage	Lagoon - 8 East	Balzer Surface	1	8,750 Gal	Custom	15.6 Lds	13	113,880	r	78	75	143
Nov-11	R Bobs Back (R7BH)	Corn silage	Lagoon - 8 East	Balzer Surface	1	8,750 Gal	Custom	22.8 Lds	19	166,440	r	78	75	143
Nov-11	R Bobs SE (R8BSE)	Corn silage	Lagoon - 8 East	Balzer Surface	1	8,750 Gal	Custom	18 Lds	15	131,400	r	78	75	143
Nov-11	R Bobs South (R9BS)	Corn silage	Lagoon - 8 East	Balzer Surface	1	8,750 Gal	Custom	10.8 Lds	9	78,840	r	78	75	143
Dec-11	Home 1 (H1)	Rye for cover	Catch Basin	Drag Line Inject	N/A	16,500 Gal	Custom	4 mph	21	346,500		5	5	35
Dec-11	Home 3 (H3)	Rye for cover	Catch Basin	Drag Line Inject	N/A	16,500 Gal	Custom	4 mph	24	396,000		5	5	35
Dec-11	Home 4 (H4A)	Corn silage	Catch Basin	Drag Line Inject	N/A	16,500 Gal	Custom	4 mph	18	297,000		5	5	35
Dec-11	Home 4 (H4B)	Corn silage	Catch Basin	Drag Line Inject	N/A	16,500 Gal	Custom	4 mph	19	313,500		5	5	35
Dec-11	Home 5 (H5)	Corn silage	Sand Pit 8	Slinger Dry	1	31 Tons	Custom	65.2 Lds	21	652		434	310	465
Dec-11	Home 6 (H6)	Corn silage	Sand Pit 8	Slinger Dry	1	31 Tons	Custom	68.3 Lds	22	683		434	310	465
Dec-11	Home 7 (H7)	Corn silage	Sand Pit 8	Slinger Dry	1	31 Tons	Custom	46.5 Lds	15	465		434	310	465
Dec-11	Dykehouse Corn (D19)	Corn silage	Catch Basin	Drag Line Inject	N/A	16,500 Gal	Custom	4 mph	55	907,500		5	5	35
Dec-11	R Leroy S-NW (R3SNW)	Corn silage	Lagoon - 8 East	Balzer Inject	N/A	6,300 Gal	Custom	21.6 Lds	24	151,200	r	72	54	103
Dec-11	R Leroy S-NE (R3SNE)	Corn silage	Lagoon - 8 East	Balzer Inject	N/A	6,300 Gal	Custom	18 Lds	20	126,000	r	72	54	103
Dec-11	R Leroy S-S (R3SS)	Corn silage	Lagoon - 8 East	Balzer Inject	N/A	6,300 Gal	Custom	27 Lds	30	189,000	r	72	54	103